FEBRUARY 24, 1945

Railway Age

Founded in 1856

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IT'S A GREAT NEW DAY FOR RAILROADING

YOU CAN'T BEAT THE LAW OF AVERAGES

but you can write your own ticket.

The national all-time average availability of General Motors Diesel passenger, switcher and freight locomotives is:

96% for passenger—94% for switchers—
85% for freight—average 92%

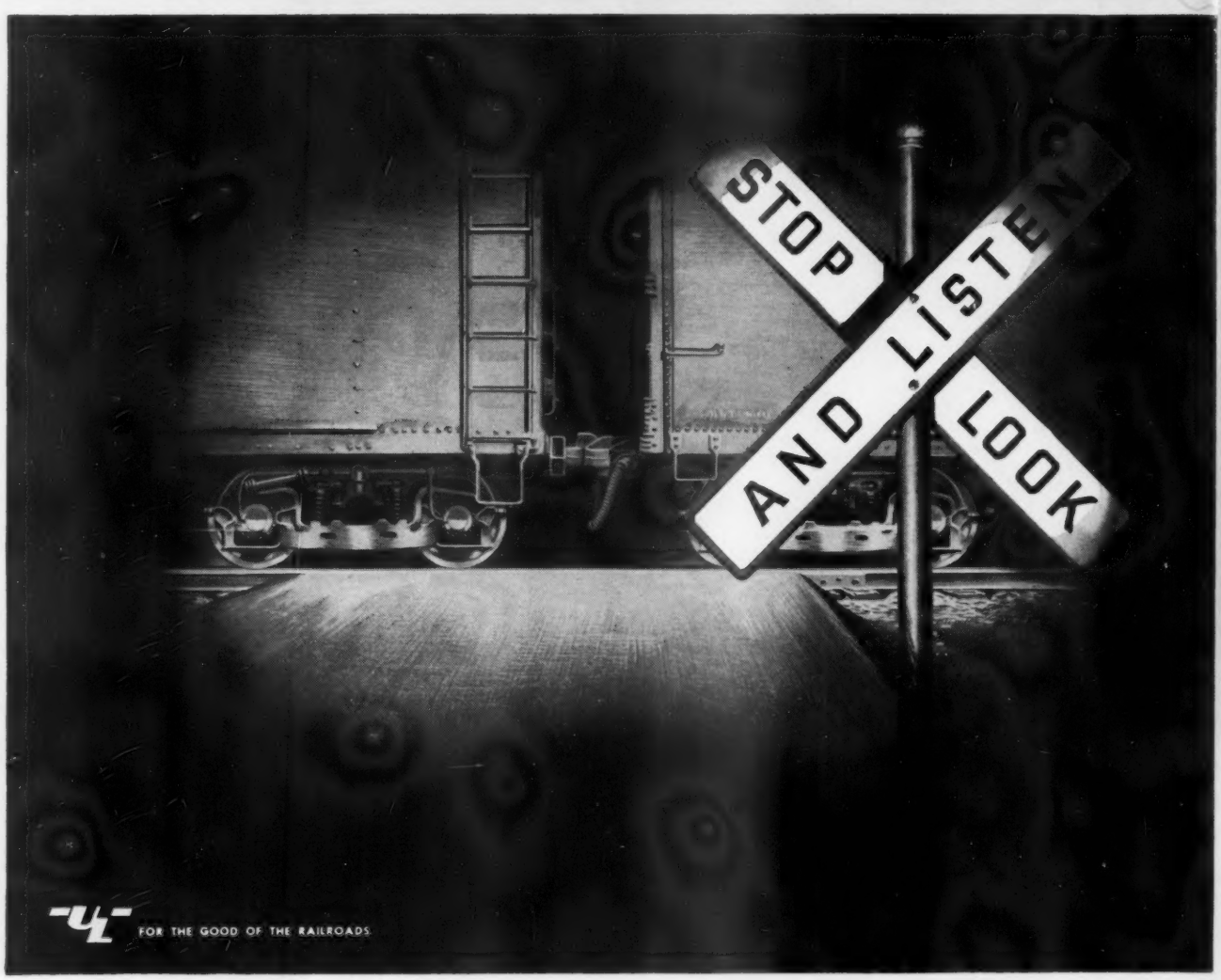
That's a ticket worth writing.
Know of another to compare with it?

GENERAL MOTORS
LOCOMOTIVES

★

ON TO FINAL VICTORY
BUY MORE WAR BONDS

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS CORPORATION · LA GRANGE, ILL.



Night and day, the railroads carry on for war

Guns, tanks, planes, trucks, ammunition, food, medicines—the railroads carry the sinews of war by the thousands of tons, day and night and night and day. Many railroads speed Victory even further by using the Evans Utility Loader to eliminate damage to the vital war materials that are shipped in box cars . . . to help reduce carloading time, car cleaning time and turn around time.

The Utility Loader is the simplest method of achieving and maintaining new high standards of heavy loading. It is designed to eliminate vertical vibration and longitudinal shock—the most common causes of the freight damage that retards the terrific task still to be done. And the Utility Loader is definitely *general purpose* equipment—equally useful in handling and protecting the goods that will be needed for Peace.

If you are not familiar with the peacetime possibilities of the Evans Utility Loader, get the data now. Write for your copy of the Evans Manual illustrating the manifold uses of Utility Loader Equipment.

★ ★ ★

We must eliminate waste in shipping

C. L. Evans
PRESIDENT

EVANS PRODUCTS COMPANY
DETROIT 27, MICHIGAN

Evans War Products: Machine Gun Mounts • Tank and Automotive Heating and Ventilating Equipment • Evanair Water Heaters • Aircraft Engine Mounts • Airplane Landing Gear Beams • Battery Separators • Prefabricated Houses • Plywood • Skyloader • Utility Loader • Auto-Loader • Auto-Railer • Auto-Stop • Stampings • Evanair Domestic Heating Equipment

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 118, No. 8.



Many test casts are made in Inland's search for new and better steels.

Invest in Victory—Buy More War Bonds and keep them.

Steel samples from pilot casts undergo photo-micrographic analysis.



New Inland Steels for Tomorrow

Inland makes steel in heats of a few pounds each for experimental purposes, and in production heats of 100 to 150 tons. The small experimental heats are run in two induction type furnaces, located in an especially equipped department of the main laboratory. These pilot heats are the forerunners of the steels for tomorrow.

Making small casts of steel is one phase of Inland's continuous research for better methods of producing steel, and for better steels *that* will make better products.

It is Inland research that already has produced low-alloy, high-yield strength Hi-Steel, and lead-bearing, faster machining Ledloy. The newest creation of Inland research is Ti-Namel—the new vitreous enameling alloy steel to which a white enamel cover coat is applied direct to the base metal. Ti-Namel assures superior quality finish, longer life, and lower shop costs.

These new Inland steels, and those that are yet to come, will be important to manufacturers competing in peacetime markets.

Bars • Plates • Floor Plate • Structurals • Piling • Rails • Track Accessories • Reinforcing Bars • Sheets • Strip • Tin Plate

INLAND STEEL COMPANY

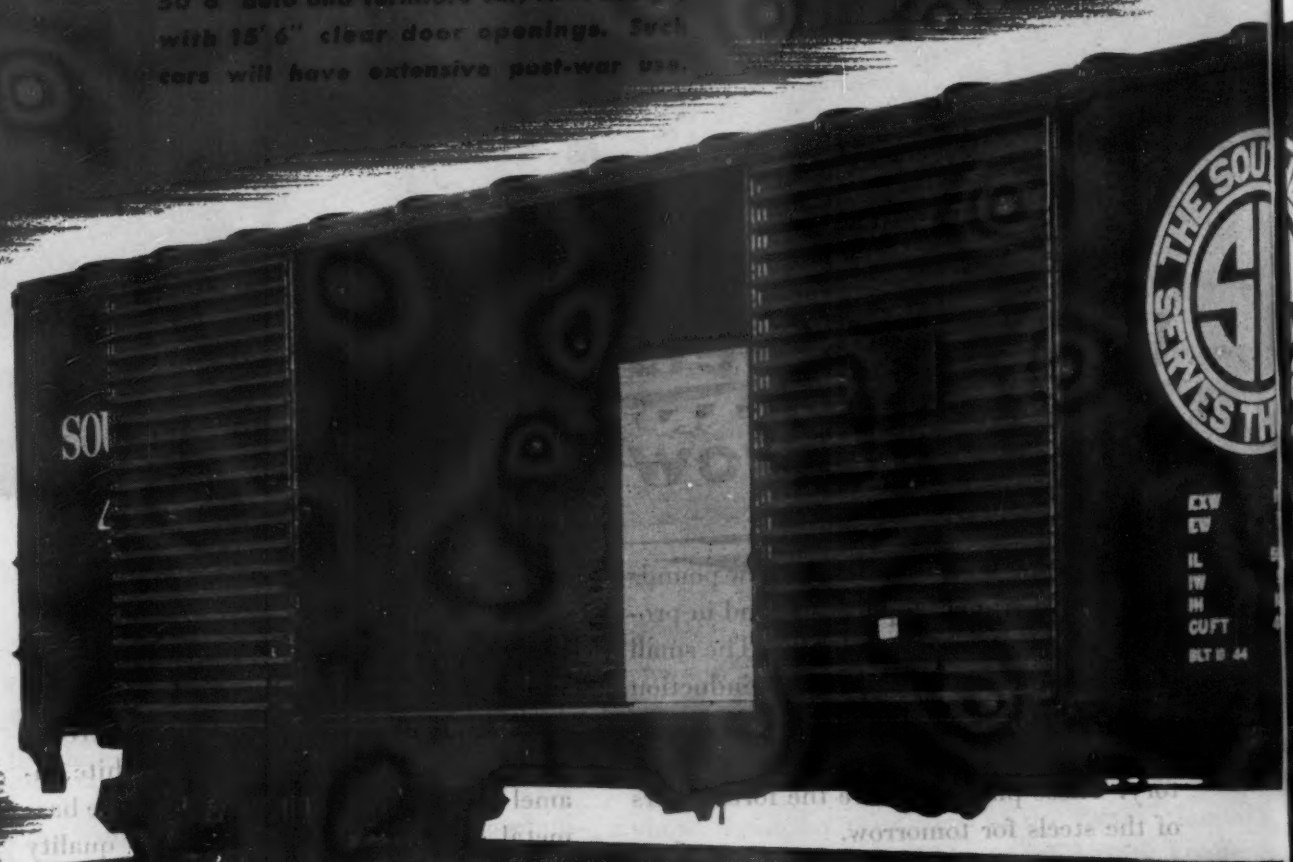
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MT. VERNON C

In Production TODAY

50' 6" auto and furniture car, AAR design, with 15' 6" clear door openings. Such cars will have extensive post-war use.



MT. VERNON CAR DIVISION:
Complete Line of Freight Cars

LOCOMOTIVE DIVISION:
Diesel, Diesel-Electric, Electric, Steam, and Fireless Steam Locomotives.

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Complete Line of Chemical, Food, and Petroleum Refinery Equipment.

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STEEL CASTING & FORGING DIVISION:
Electric Furnace Alloy, Stainless, Heat-Treated and Pressure Steel Castings; Forgings.

MT. VERNON

MT. VERNON,

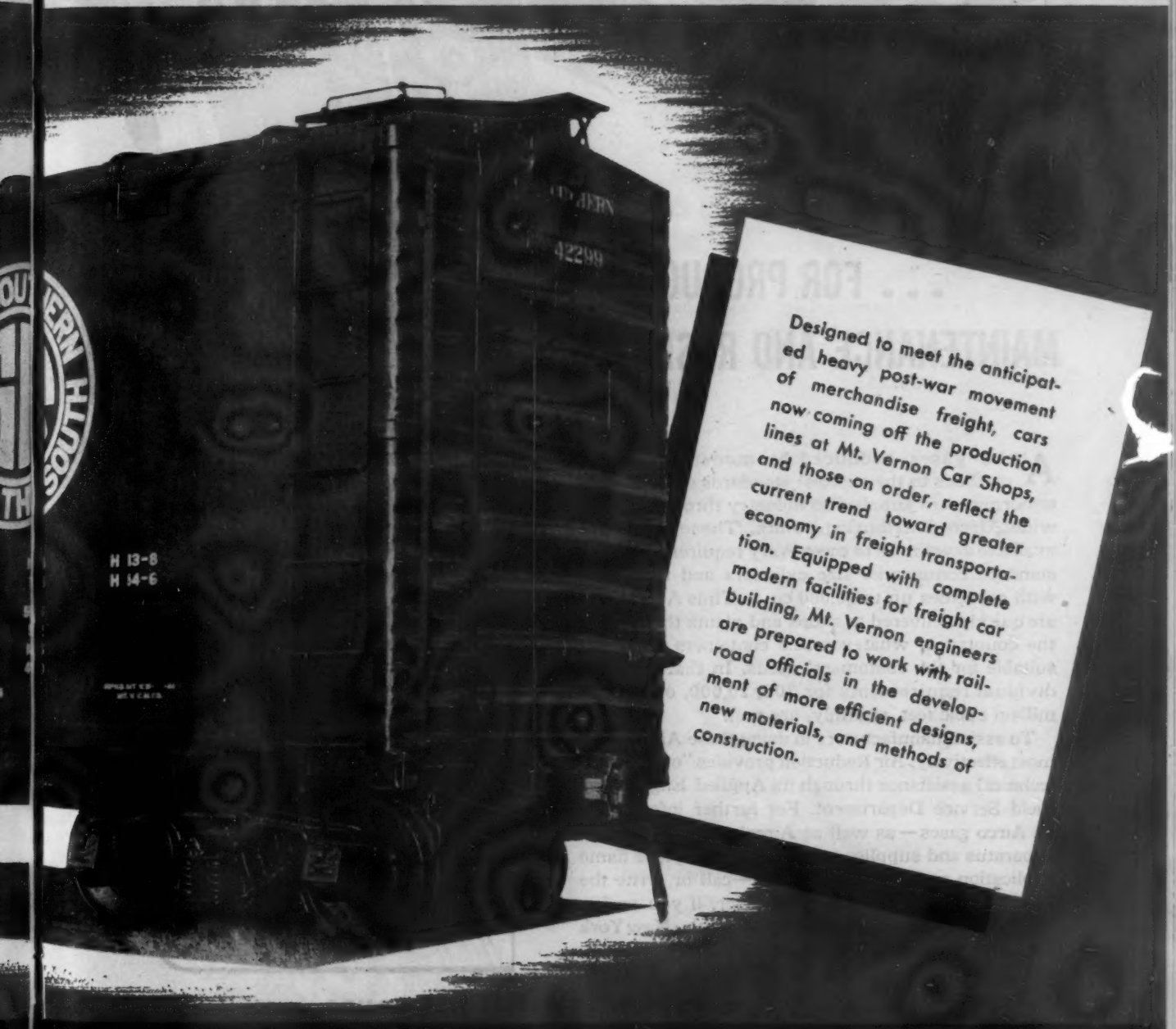
Div. of **H. K. PORTER**

PITTSBURGH 22

Factories: Mt. Vernon, Ill. • Pittsburgh, Pa. • Blairsville, Pa.

CARS

for Tomorrow's Traffic!



Designed to meet the anticipated heavy post-war movement of merchandise freight, cars now coming off the production lines at Mt. Vernon Car Shops, and those on order, reflect the current trend toward greater economy in freight transportation. Equipped with complete modern facilities for freight car building, Mt. Vernon engineers are prepared to work with railroad officials in the development of more efficient designs, new materials, and methods of construction.

CAR MFG. CO.
ILLINOIS

COMPANY, Inc.
PENNSYLVANIA

McKeesport, Pa. • Newark, N.J. • New Brunswick, N.J.

PORTER
"Better Built" Equipment
Established 1866

AIRCO GASES



. . . FOR PRODUCTION, MAINTENANCE AND RESEARCH

AIRCO gases, produced by modern scientific methods to the strictest standards of purity and uniformity, are supplied to industry through nation-wide Airco distributing points. These gases are available in volumes to meet every requirement . . . in standard commercial size cylinders and in trailers with capacities up to 40,000 cu. ft. Thus Airco gases are quickly delivered to shops and plants throughout the country in whatever size containers are most suitable for the customers' needs. In that way, individual requirements for 200, 20,000, or several million cubic feet, monthly, are met.

To assist manufacturers in using these Airco gases most effectively, Air Reduction provides "on-the-job" technical assistance through its Applied Engineering Field Service Department. For further information on Airco gases—as well as Airco's complete line of apparatus and supplies for every oxyacetylene flame application and arc welding need—call or write the nearest Airco office, or, if you prefer, communicate direct with the New York Office, Department R. A.

OXYGEN guaranteed 99.5% pure . . . assures maximum speed and economy in cutting, and greater efficiency in welding.

ACETYLENE proved by use and test to be the most economical fuel gas for oxyacetylene welding and other flame applications.

NITROGEN dry and inert, contains less than 0.3% oxygen. Also available at higher purity to meet specialized needs.

HYDROGEN produced electrolytically, contains less than 0.5% oxygen.

ARGON manufactured pure or mixed with nitrogen as specified by user.

HELIUM is available with a purity of approximately 98% and higher.

★ BUY UNITED STATES WAR BONDS ★

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BEATING TIME AND STORM

In recent dispatches I have told you about hospital trains and hurricanes. The other day I ran across a yarn that combines a bit of both.

* * *

Colonel Sidney L. Chappell is the commanding officer in charge of more than a thousand convalescent G.I.'s at one of the luxury hotels on the beach front at Atlantic City, N. J., which is now serving as an Army Hospital. These boys "got their's" in Africa, Italy, France and the Pacific. Some get around by themselves. Others lie very still, are quietly attended day and night by patient, devoted Army and Red Cross nurses.

Colonel Chappell, anxious about his charges, was following the hurricane's progress hour by hour. It had hit the Carolinas and was headed north, but was still some miles at sea. Snarling surf and glowering skies attested its presence.

Then, early in the morning on Sept. 15, the word flashed—"Ninety-mile-an-hour hurricane headed for Jersey Coast. Urge all move to mainland immediately."

How to move a thousand sick and handicapped men, with food and medical supplies, before the storm broke in all its fury?

When the War Department issued its evacuation order on the railroads, railroad men already had their hands full battling washouts, undermined bridges, broken power and communication lines.

But you just can't let a wounded soldier down.

Literally, before the orders were off the teletype, the Pennsylvania-Reading Seashore Lines were making up special coach trains. They highballed out of Philadelphia in minutes. Later, Pullman trains from Sunnyside, N. Y., and hospital trains from Staten Island were roaring south. Probably a new record was made on these runs, although no one thought of speed for speed's sake. Everyone was intent on one purpose—to move a thousand soldiers to safety, in time.

Through high water and the 90-mile gale, over roadbeds which miraculously held secure, they whipped into the storm-struck resort. After every wounded man was put aboard, those trains were off again—to safety, in the Halloran General Hospital, Staten Island.

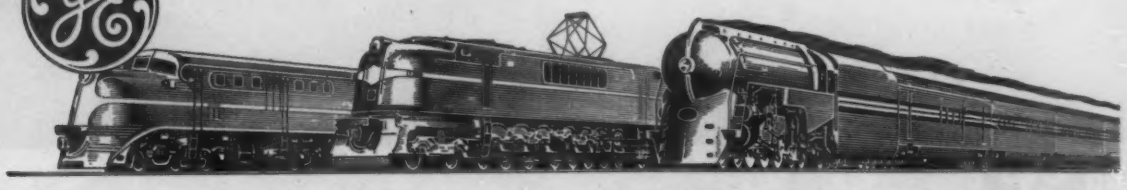
A movement that normally would have taken several days to plan and execute was completed in a few hours. Yes, there were a few short delays, and some inconvenience to travelers. But that was a small price to pay.

*—The Trackwalker**

★ ★ ★

At a vital disembarkation point, the immediate and continued availability of Alco-G.E. diesel-electric locomotives enabled them to absorb an increase of 144 per cent in gross ton mileage, while reducing the number of motive-power units from 17 steam locomotives to 8 diesel-electrics.

Alco GE



AMERICAN LOCOMOTIVE • GENERAL ELECTRIC

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The touch of TOMORROW

A FORESHADOW OF THE FUTURE IN 1938

Lightweight, all-welded COR-TEN *box car weighs 8,500 lb. less than A.A.R. standard, yet is designed to exceed A.A.R. strength requirements.*

In order to produce a balanced design each member of this car was carefully analyzed from a stress viewpoint to obtain the greatest possible weight saving and yet retain adequate strength.

Substantial weight reduction was accomplished by building with low-alloy, high-strength COR-TEN.

Although the minimum yield point of this steel is more than twice that of ordinary open-hearth steel, an average of only one-third was deducted from the thickness of COR-TEN used in this design. In other words, greater reductions in thickness—and weight —could safely have been made, without reducing strength below A.A.R. requirements.

Insofar as it provides the desirable combination of light weight and strength, this car, which insures greater payload capacity as well as reduced operating and maintenance costs, is a true prototype of the cars of the future.

GABX
1940
CAPY 100000
LD LMT 132200
LT WT 36800 NEW 11-39

USS STEEL
UNITED STATES STEEL

UNITED STATES

. . . in the freight cars of TODAY



"Lightweight design and COR-TEN *construction"*

NO ONE knows what the freight car of the future will look like. But one thing seems certain. They will be lighter.

The benefits of lightweight construction have been so plainly demonstrated during these war years that they cannot be ignored.

In 51,032 lightweight COR-TEN cars now in service, payload capacity has been increased an average of 2.56 tons per car. Decreases in operating costs have been estimated at some $45 per car per year. Maintenance costs have been low. As regards availability for service, this COR-TEN equipment has stood the tough test of wartime operation with flying colors.

On these facts, forward looking men in railroad management are basing their plans for the elimination of dead weight in postwar car construction. They know that without modern, *lighter* cars it will be impossible to effect the economies that will permit maintenance of streamlined freight service that will attract shippers from competing forms of transportation.

Now, with COR-TEN—the pioneer low-alloy, high-strength steel—again available for freight car construction, your new equipment can be built lighter, stronger, longer-lasting and more efficient than ever before. Our engineers will gladly show you how lightweight construction with COR-TEN can be applied to your designs, what it will cost and the sound economic reasons that justify its use.

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*
United States Steel Supply Company, Chicago, *Warehouse Distributors*
United States Steel Export Company, New York

U·S·S
High Strength
Steels

STEEL

Electrification

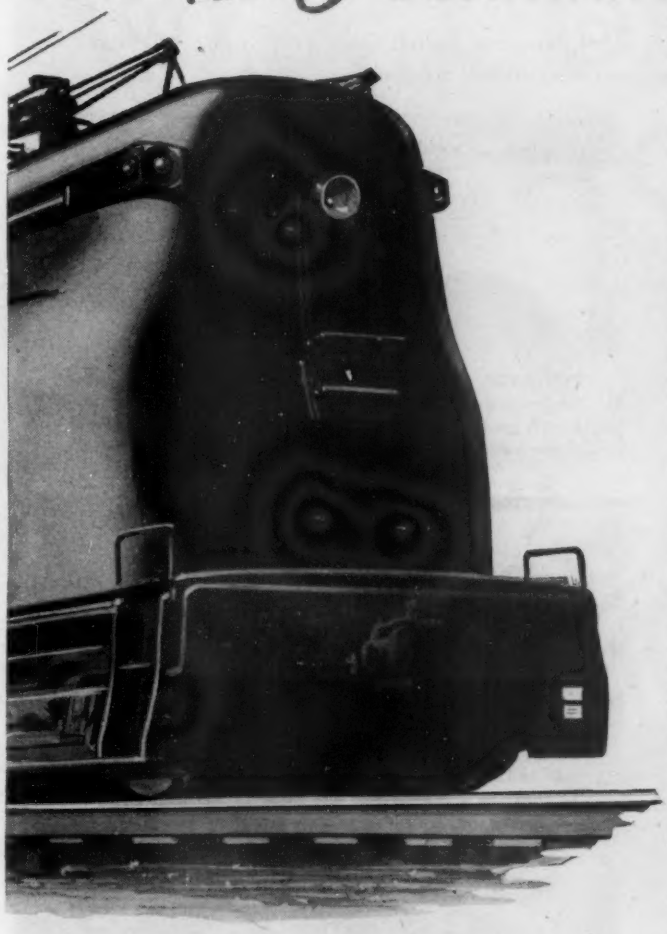


Westinghouse

ELECTRIFICATION CAN HELP MEET THE COMPETITION....

HOW ELECTRIFIED OPERATION CAN BENEFIT

THE *Railroads* OF TOMORROW



High-speed operation and new high standards of service will be required of tomorrow's railroads. Postwar competition for passengers and freight will be severe . . . with every type of common carrier trying to capture the railways' line-haul business.

Modernization of plant and equipment is the best competitive weapon for railroads to employ. One of the most practical modernization improvements that railroads can make is . . . electrification . . . which will help meet the threat of new fleets of planes, buses, automobiles, trucks and ships. With electrified operation, railroads can offer faster schedules, improved service, greater comfort and convenience, combined with maximum economy and safety. Higher speeds, however, will require more power.

Electrified motive power offers decided advantages because it permits rapid expansion of drawbar capacity without corresponding increases in weights, dimensions, first cost or operating expense. Another advantage is fuel. The trend of most fuel costs has been upward, but the cost of electric power has been downward.

A program of postwar electrification is sound insurance for continuance of volume traffic and profits . . . for lower operating expenses and protection of capital investment.

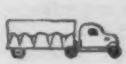
J-95095

CONSULT WESTINGHOUSE ON ELECTRIFICATION PROBLEMS

For many years, Westinghouse has played an important part in the development of railway electrification, serving many of America's great railroads with electrification equipment, ranging from power transformers to locomotive motors.

Our many years of engineering experience in this field, plus our complete manufacturing facilities, are available for your postwar electrification requirements. Westinghouse Electric & Mfg. Co., P.O. Box 868, Pittsburgh 30, Pa.

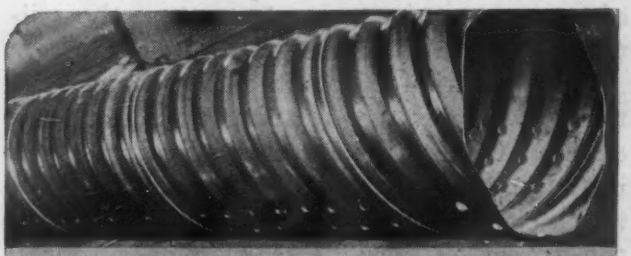
Railroad Electrical Equipment

OF THE SKYWAYS  OF THE HIGHWAYS  OF THE WATERWAYS 

THESE SERVICE-TESTED PRODUCTS

WILL SOLVE YOUR DRAINAGE PROBLEMS

Here are some of the Armco drainage products that can help you cut maintenance costs and assure more efficient drainage systems for your overworked roadbeds.



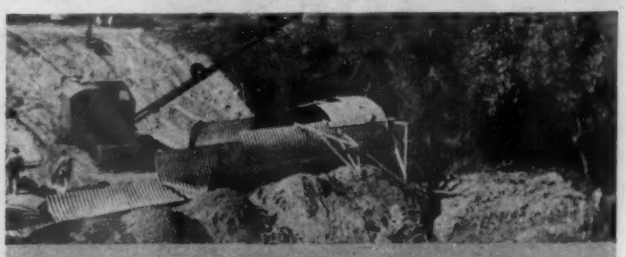
PERFORATED PIPE. Ideal for all kinds of subdrainage requirements. This flexible, sturdy pipe has ample infiltration capacity, will not readily fill up with solids. It is made with circumferential or helical corrugations.



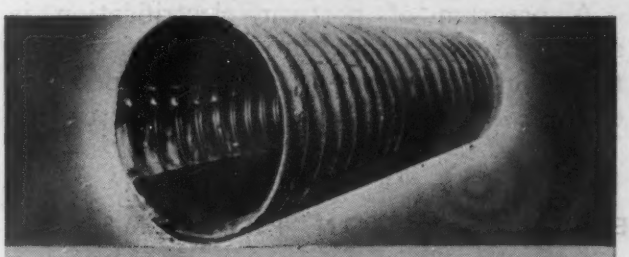
PIPE-ARCH. Pipe-Arch has many advantages when used for low-clearance culverts. For many service conditions Pipe-Arch is provided with bituminous paved invert to resist wear in the bottom.



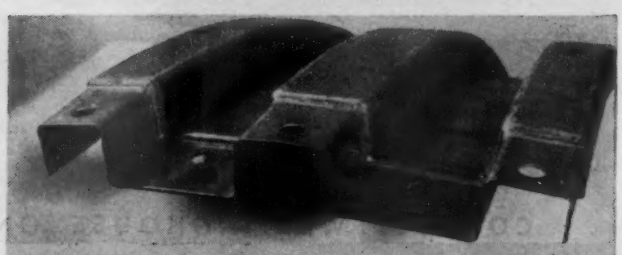
RETAINING WALLS. These are rugged steel bins completely encased on all four sides. Earth or other material inside the bins gives weight and stability. Walls prevent encroachment of streams or embankment slopes.



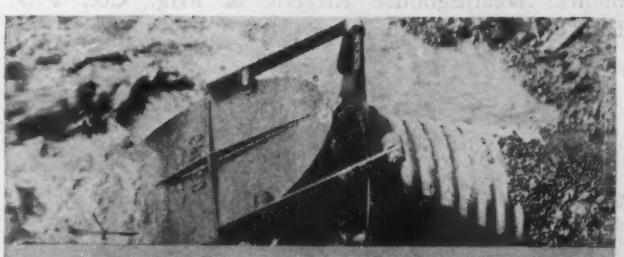
MULTI PLATE PIPE AND ARCHES. Manufactured for pipe (60" to 180" diameters) and for arches (5' to 25' and larger). Excellent for large culverts and small bridges. MULTI PLATE has ample strength for large sizes and high fills.



ASBESTOS-BONDED PIPE. This is a galvanized corrugated pipe with a thick smooth pavement of a special bituminous material over a layer of asbestos felt. Ideal wherever soil or the contents flowing through pipe may cause corrosion.



LINER PLATE. Used for lining tunnels and shafts. These are corrugated, flanged circular segments which are bolted together. Plates are strong though light. Manufactured in two types, standard and heavy duty.



DRAINAGE GATES. Employed for flood control, drainage, sewer outfalls and reservoir outlets. Adaptable to rectangular or circular openings. Calco Drainage Gates are made to fit all standard diameters from 8 to 84 inches.

Write for quotations and additional information. Armco Railroad Sales Co. Incorporated, 831 Curtis Street, Middletown, Ohio.

ARMCO

ARMCO RAILROAD SALES CO. INC.

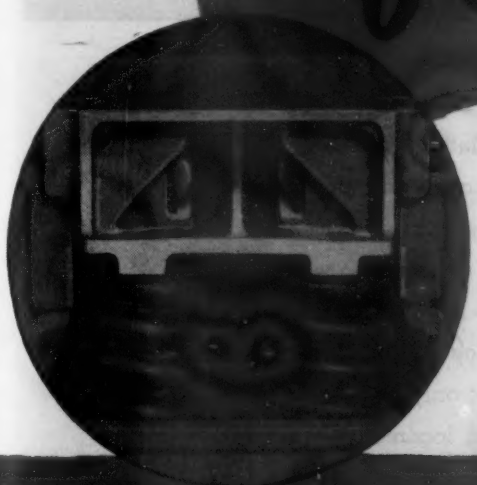
THE TRUCK FOR TODAY'S NEED...TOMORROW'S SPEED!



For more MILEAGE and less MAINTENANCE...

Ride-Control!

NO SPRING PLATES
NO SPRING PLANKS

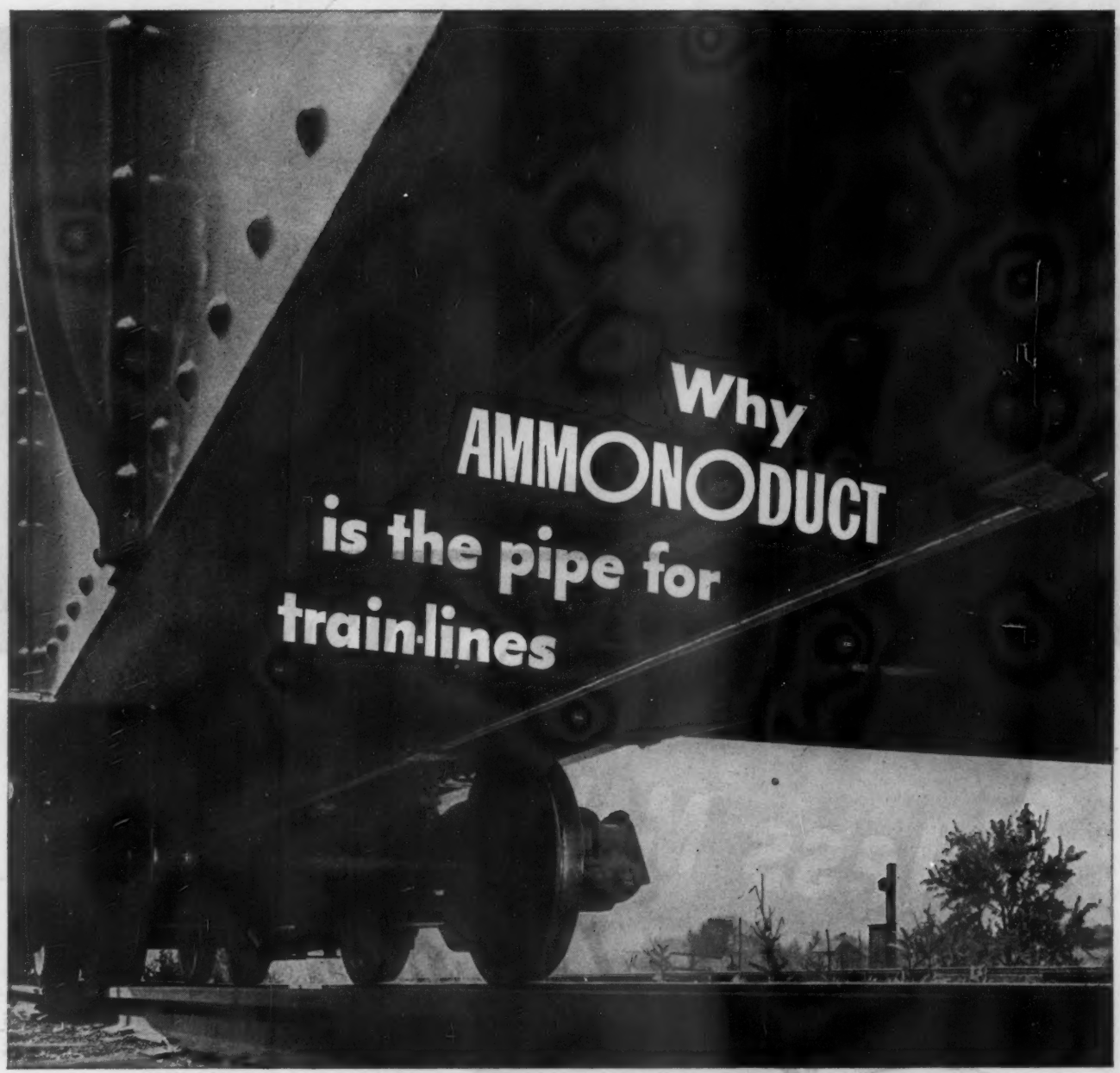


The A. S. F. Ride-Control Truck (A-3) can be relied upon for easy-riding, dependable service with low maintenance expense. And chief among the reasons-why is the fact that the Ride-Control prevents the development of destructive harmonic oscillation. All bolster motion, both vertically and laterally, is cushioned and controlled by spring pressure to assure smooth, easy operation. Then, too, the Ride-Control Truck is rugged and simple in construction. Without spring plates or spring planks, providing the simplest of assemblies, this truck is designed to keep more freight cars moving, more of the time.

AMERICAN STEEL FOUNDRIES

CHICAGO

BUILT-MADE OF FINE CAST STEEL



Long-continued operation at high-speed with its punishing vibration can't faze a train-line made of Ammonoduct. Unlike ordinary pipe, Ammonoduct resists fatigue failure or embrittlement caused by shock and vibration stresses.

That's because Ammonoduct is made of a special open-hearth steel—a steel which is highly ductile, clean, and uniform. Ammonoduct welds readily and threads easily. Because of its remarkable ductility, it is especially adaptable to cold-bending and cold-forming. To illustrate its ductility, a cold "U-bend" of Ammonoduct can be restraightened without fracture. This means quick and easy installation, because preheating and annealing costs are eliminated.

Ammonoduct is made in sizes from ½ in. to 3 in. in standard and extra-strong weights, to specifications AAR M-111 and ASTM A-53. It sells at the same price as standard pipe. It is the ideal pipe not only for train-lines, but also for steam and locomotive piping.

AMMONODUCT

THE PIPE FOR TRAIN-LINES AND AIR-BRAKE PIPING

BETHLEHEM STEEL



TWICE THE LIGHT WITH NO INCREASE IN BATTERY DRAIN

● Fluorescent lighting not only means added comfort and beauty for modern lounge and dining cars as well as for coaches, but for the first time it brings really adequate illumination to passengers. Actual tests have shown that passengers prefer this gracious, eye-resting type of lighting. To the railroad operator it means increased customer satisfaction, plus greater lighting efficiency and economy because fluorescent lamps provide twice as much light as incandescent lamps of equivalent wattage.

Electronic Laboratories has developed four current converting systems to make possible the operation of fluorescent lights from the regular electrical systems of the cars.

E-L System No. 1—Parallel Operation—This system consists of a power supply which will operate 30-watt fluorescent lamps, connected in parallel. Parallel operation makes it possible to turn the lamps on or off individually. This system can be provided for any DC input voltage. An important feature is its regulated output voltage, so that the light output from the lamps will remain essentially constant.

E-L System No. 2—Series Operation—This system differs from System No. 1, only in that the fluorescent lamps are operated in series. Series operation simplifies the wiring, but eliminates the possibility of individual lamp control.

E-L System No. 3—Cold Cathode Operation—This E-L Power Supply System is designed to operate the new 93-inch cold cathode fluorescent lamps. It is one of the simplest fluorescent lighting installations. This E-L Power Supply can be provided for any DC input voltage—12, 24, 32, 110 or 600 volts.

E-L System No. 4—Voltage Doubler—This E-L Power Supply System is especially good where 32 volts DC is available as a power source. It consists of a voltage doubler type converter which steps up the 32 volts DC to 64 volts DC from which 14-watt fluorescent lamps may be operated. With this system the lamps can be individually controlled.

These units are all very efficient and may be provided with a high degree of voltage regulation—constant output voltage despite wide fluctuations of input voltage—which means that you have uniform light at all times. With E-L Vibrator Power Supplies, the maintenance problem is cut to a minimum. Development in recent years assures complete reliability.

E-L Standard Power Supply

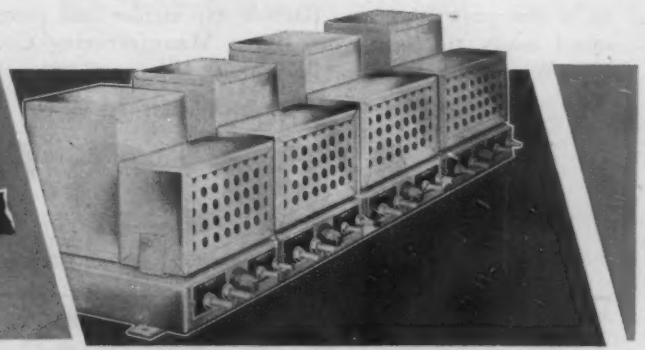
Model S-946-A

This typical E-L model may be utilized as a multi-channel unit for the operation of eighty 14-watt fluorescent lamps, by having four units run together as shown below.

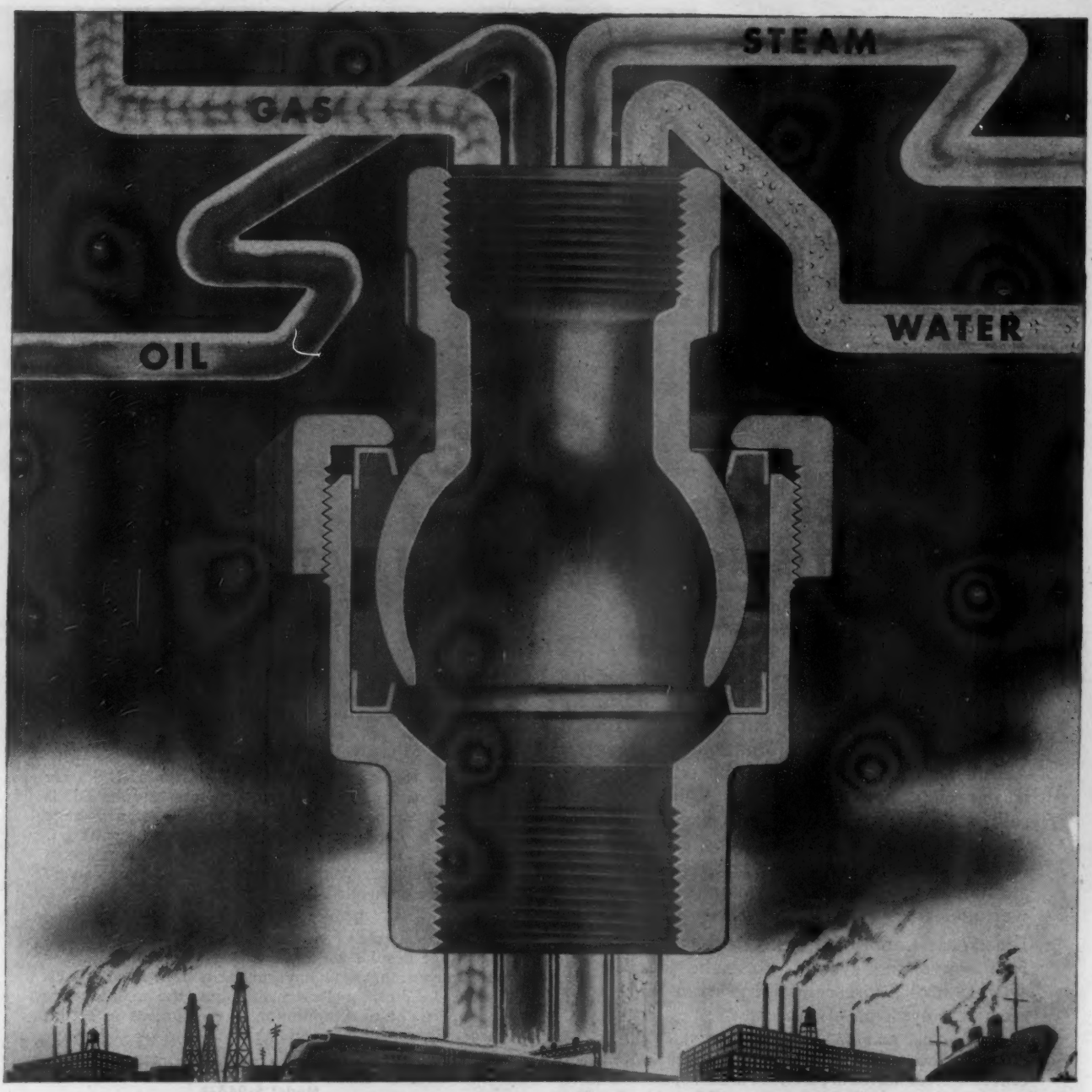
Specifications (of a single unit): *Input,* 32 volts DC; *Output,* 64 volts DC at 5 amps.

Dimensions: 6 3/16 x 8 1/8 x 7 3/4 inches.

Electronic LABORATORIES INC. INDIANAPOLIS



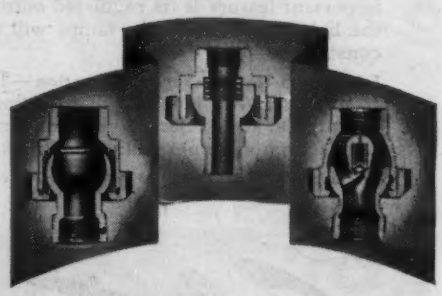
VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS, AND ELECTRIC MOTOR OPERATION • ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT



BARCO KEEPS VITAL FLUIDS FLOWING

The destructive action of vibration and shock can't hurt fluid-conveying pipes protected by Barco Flexible Joints. By means of responsive movement, Barco compensates for every contraction and expansion—preventing leaks and breaks. Its range of designs covers every flexible joint problem in transportation and industry. Today, as in the past 30 years, Barco's experience and progressive skill stand ready to assist you. Barco Manufacturing Co., Not Inc., 1800 Winnemac Avenue, Chicago 40, Illinois.

In Canada: The Holden Co., Ltd., Montreal, Canada



BARCO FLEXIBLE JOINTS

THE FREE ENTERPRISE SYSTEM IS THE SALVATION OF AMERICAN BUSINESS

Not just a swivel joint...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.



"MOVE IN EVERY DIRECTION"



DOWN TO THE SEA IN TRUCKS

Filling the yawning bottoms of thousands of waiting ships is one of the trucking industry's greatest contributions to the war effort. How well this job has been accomplished is evidenced by the ceaseless flow of vital materiel to the widely scattered fighting fronts of the United Nations ★ Here is a new and glorious chapter of America's transportation progress being written before our very eyes and one which will weigh heavily in forcing the ultimate peace ★ For a task well done, Bendix-Westinghouse salutes the industry as a whole and appreciates the heavy role it has been privileged to play in furnishing a dependable power-to-stop which so adequately fulfills the slogan, "Safety Standard of the World." ★ Fighting now for Victory, Bendix-Westinghouse Air Brakes and Pneumatic Controls await only the coming of peace to bring even greater benefits to the trucking industry which has every right to expect big things from the two greatest names in braking.

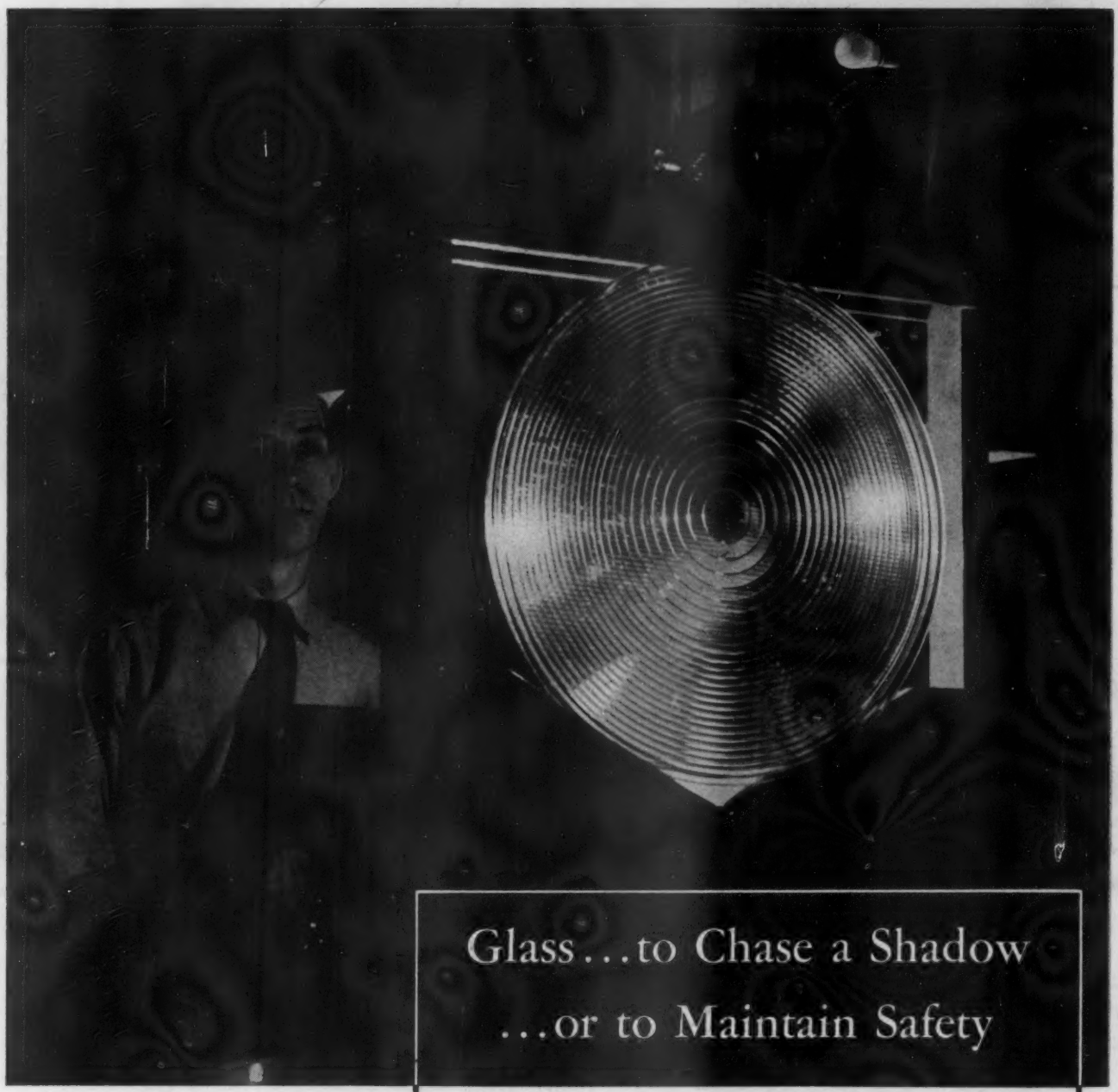
BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY . . . ELYRIA, OHIO

Bendix-Westinghouse

AIR BRAKES

AND PNEUMATIC CONTROL DEVICES

IT IS SIGNIFICANT THAT AMERICA'S FINEST MOTOR TRUCK FLEETS ARE EQUIPPED WITH BENDIX-WESTINGHOUSE AIR BRAKES



Glass...to Chase a Shadow ...or to Maintain Safety

Corning has had years of experience in searching for and finding the solutions to countless out-of-the-ordinary lighting problems. Here is a typical example.

The lens shown above in a test at Corning is made so accurate that light can be regulated from an intense spot that will chase away a shadow to a huge flood for a complete stage set.

Whether it's a problem of helping Hollywood make movies better or helping the Railroads keep traffic moving safely, Corning has the experience plus the engineering and production facilities to lend a hand. The familiar Corning trade-mark on signal glassware is assurance of scientific design, and enduring, high quality. Today, Corning signal glassware is serving the nation on every American Railroad and Corning can be counted on to solve your signal glass problems of tomorrow.

All manufacturers of Lamps, Lanterns and Signals can supply Corning Railroad glassware. Each piece of glassware for railroad signal service conforms with AAR specifications which were developed with the cooperation of the Corning Laboratory.

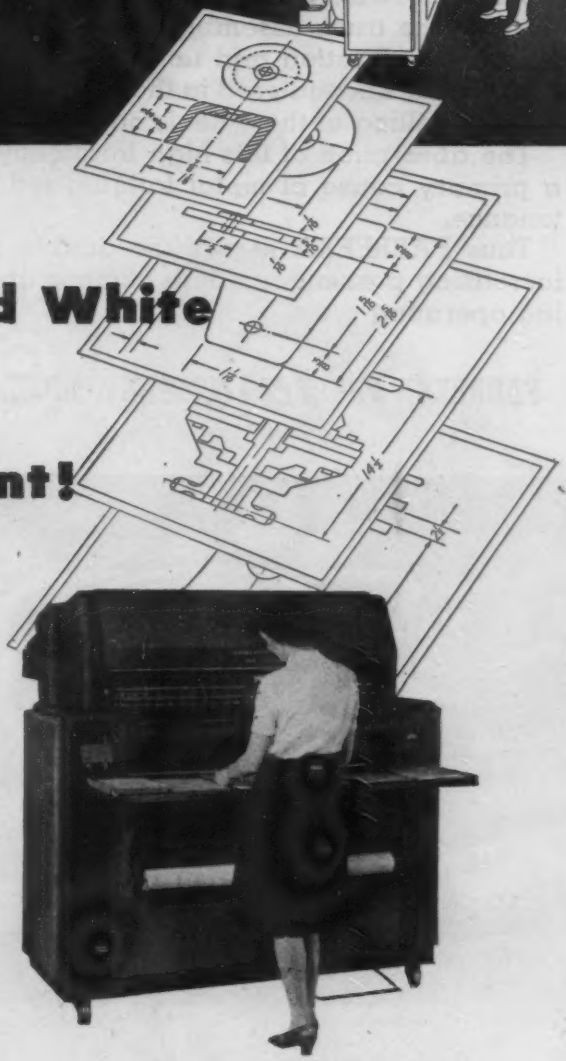
Safety depends on Signal Glassware—America's Railroads depend on Corning.
Corning Glass Works, Corning, N. Y.

"CORNING" is a registered trade-mark and indicates manufacture by Corning Glass Works, Corning, N.Y.

CORNING *means* Research in Glass



Make Bruning Black and White Prints Right in Your Drafting Department!



Yes—it takes only an area of 61" x 65" to install this Bruning 75-159B Volumatic Printer-Developer! That means you can make Bruning Black and White Prints right in your drafting room—in your engineering department—in a private office! And with this Bruning machine, one person performs the entire printing and developing operation . . . produces BW Prints in large volume on sheets cut to the exact size of your tracings. Remember, BW equipment requires no plumbing.

Decide *now* to have the extra advantages of Bruning Black and White Prints—far easier to read and to check than blue prints! There is Bruning printing and developing equipment for every print production need—whether you make only a few prints a day or hundreds. Find out how easy it is to have BW Prints—mail the coupon for full information.

It's positively right —in Black and White

CHARLES BRUNING COMPANY, INC.

Since 1897

NEW YORK	CHICAGO		LOS ANGELES
Birmingham	Boston	Detroit	Houston
Kansas City	Milwaukee	Newark	Pittsburgh
St. Louis	San Francisco	Seattle	

CHARLES BRUNING COMPANY, INC.,
4738-40 Montrose Avenue, Chicago 41, Illinois

Please send me your free booklet giving up-to-date information on Bruning Black and White Prints. I understand there is no obligation.

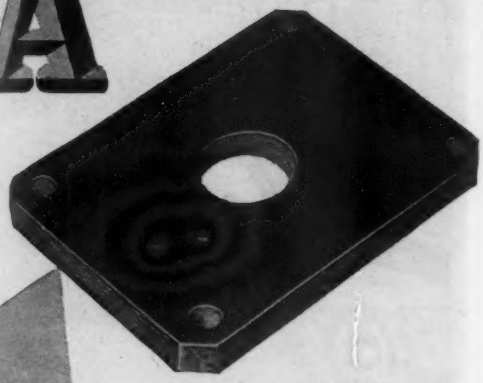
*Name*_____

*Address*_____

*City*_____ *State*_____

FABREEKA

For Passenger Comfort
and Maintenance Reduction
on New or Reconditioned Rolling Stock



FABREEKA in the trucks of passenger cars absorbs the high frequency vibration and noise which would otherwise be transmitted through the metal parts of the truck assembly to the car body. High frequency vibration and noise result from the impact shocks encountered in the operation of the car and the rolling of the wheels on the rail.

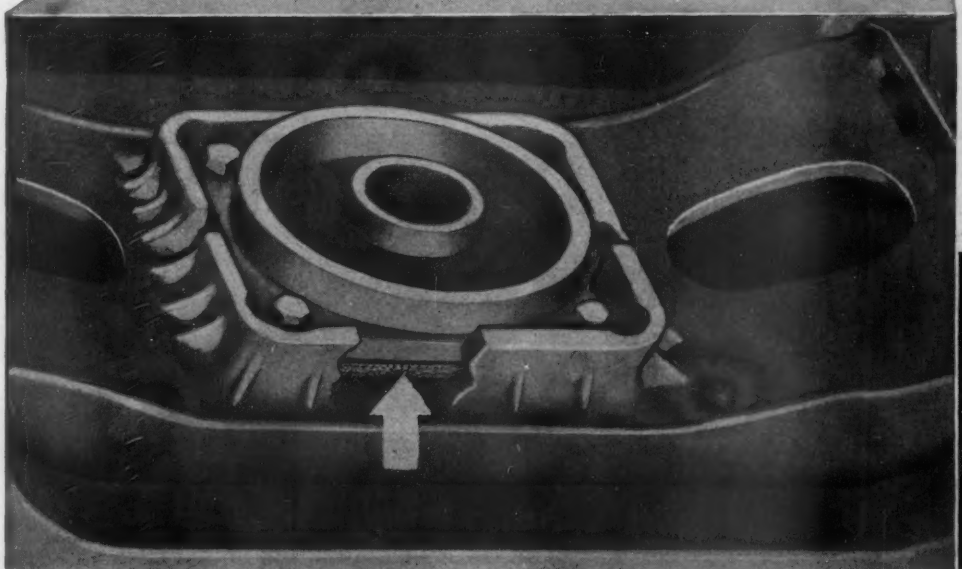
The absorption of this high frequency vibration, a primary cause of metal fatigue, reduces maintenance.

Thus FABREEKA serves the double purpose of increasing passenger riding comfort and decreasing operating costs.

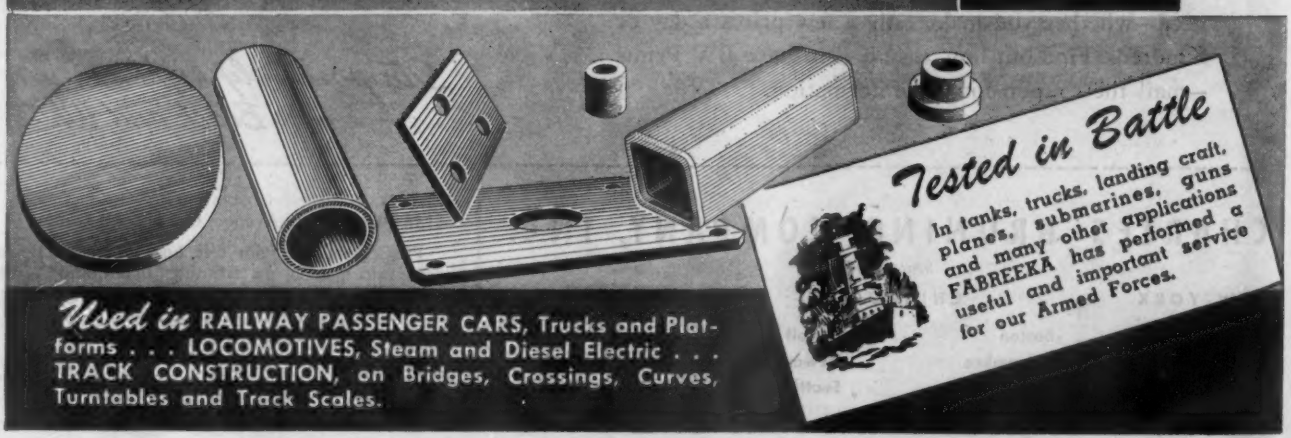
Proven in the railway field for over 10 years, experience shows that for satisfactory results FABREEKA should be used at these six important points:

1. Coil Springs
2. ★ Center Plates
3. Journal Boxes
4. Buffer Stems
5. Side Bearings
6. Swing Hanger Bearings (under spring plank)

FABREEKA PRODUCTS COMPANY, INCORPORATED
BOSTON 10, MASS.



★
CENTER PLATE Application of FABREEKA



Tested in Battle

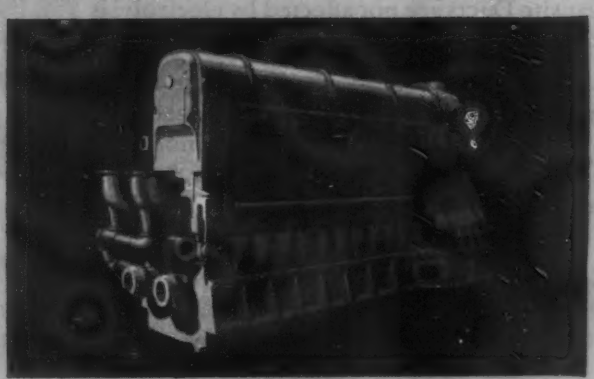
In tanks, trucks, landing craft, planes, submarines, guns and many other applications FABREEKA has performed a useful and important service for our Armed Forces.

Used in RAILWAY PASSENGER CARS, Trucks and Platforms . . . LOCOMOTIVES, Steam and Diesel Electric . . . TRACK CONSTRUCTION, on Bridges, Crossings, Curves, Turntables and Track Scales.

TOMORROW'S POWER TODAY!



It's the Opposed-Piston Diesel Locomotive by



FAIRBANKS-MORSE

A name worth remembering

UPKEEP GOES DOWN with these UNDERGROUND CABLEWAYS



These 5 advantages of TRANSITE DUCTS assure low maintenance

1. *Permanently smooth bore*... long cable pulls and replacements are made easy. Danger of damage to cables is minimized.

2. *Easily and quickly installed*... long, lightweight lengths and simple assembly method assure rapid, economical installation.

3. *Inorganic*... made of asbestos and cement compressed under great pressure. This provides permanence and strength... makes these ducts immune to rust and rot.

4. *Immune to electrolysis*... being entirely inorganic and non-metallic, Johns-Manville Transite Ducts are not affected by electrolysis or galvanic action.

5. *Incombustible*... won't contribute to the formation of dangerous smoke, gases, or fumes. If burnouts do occur, these inorganic ducts provide maximum protection to adjacent cables and permit easy removal of damaged conductor.

For specifications and details on Transite Ducts, write Johns-Manville at New York, Chicago, Cleveland, St. Louis or San Francisco.

TRANSITE CONDUIT—for exposed work and for use underground without a concrete encasement.

TRANSITE KORDUCT—for installation in concrete. Thinner-walled but otherwise identical with Conduit.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville

87 YEARS OF SERVICE TO TRANSPORTATION

Insulations · Packings · Friction Materials · Refractory Cement · Building Materials

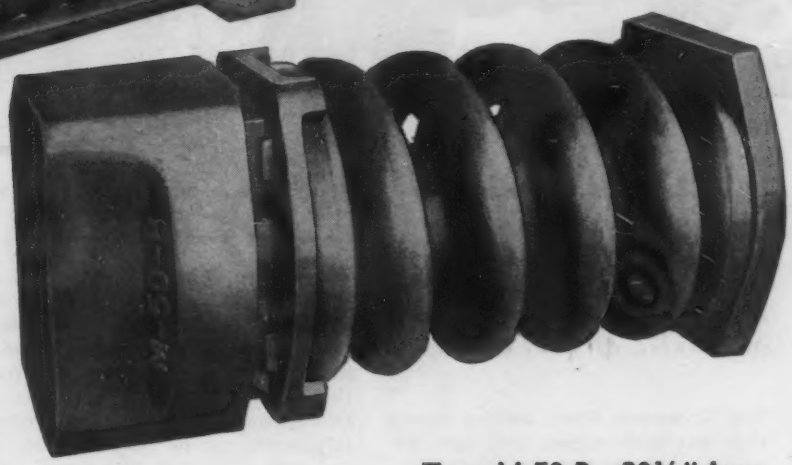
NATIONAL FRICTION DRAFT GEARS

A.A.R. Approved



Type M-17-A—22⅜" long

Smooth Action
Long Life
Low Maintenance
High Protective Capacity



Type M-50-B—20⅛" long

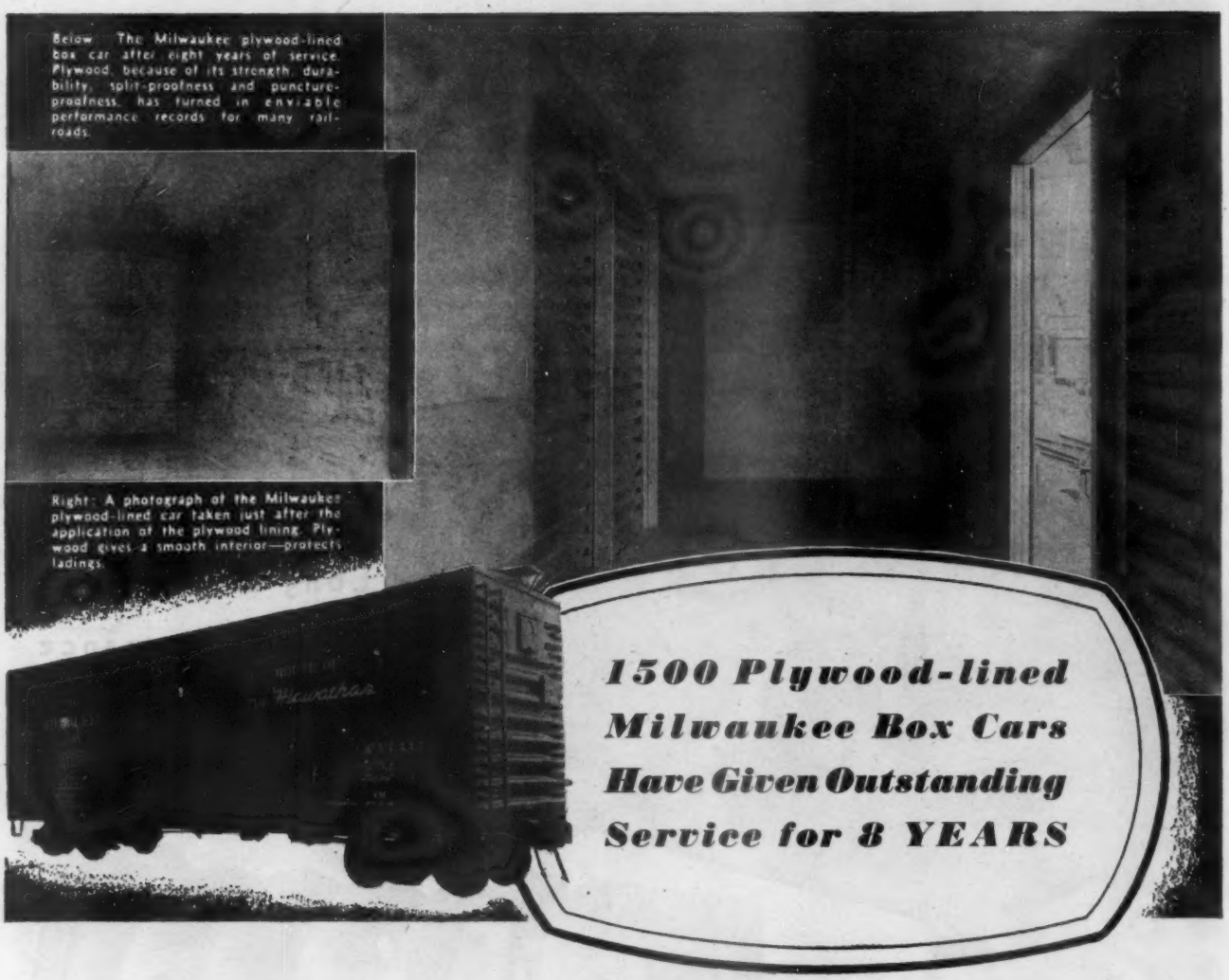
76 Years Service to Transportation

Specify NATIONAL Draft Gears for efficient, economical service.

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.



Below: The Milwaukee plywood-lined box car after eight years of service. Plywood, because of its strength, durability, split-proofness and puncture-proofness, has turned in enviable performance records for many railroads.

Right: A photograph of the Milwaukee plywood-lined car taken just after the application of the plywood lining. Plywood gives a smooth interior—protects ladings.

1500 Plywood-lined Milwaukee Box Cars Have Given Outstanding Service for 8 YEARS

"Plywood, adopted as standard lining under steel roofs where moisture is likely to form, has eliminated many claims due to moisture damage of lading," reports Chicago, Milwaukee, St. Paul & Pacific.

The Milwaukee Road, seeking a car that was both rugged and light in weight, made its first test-application of Douglas fir plywood for lining in July, 1934. The application was so successful that an additional 1500 plywood lined cars were built in 1936.

The photos above graphically show how well these cars have withstood eight years of service!

Plywood lining has many advantages. It prevents damage to ladings. It may be attached directly to the wood fillers, eliminating metal - to - metal contact and preventing frost penetration through bolts or screws. It is strong, rigid, split-proof and puncture-proof, can be handled easily in large panels during installation and gives a smooth, durable car interior. Flooring, sides or ends can be removed without affecting each other. In the 1500 Milwaukee Road cars, ¾" 5-ply plywood was used for sides and ends, while ⅜" 3-ply plywood was employed for ceilings. All sections were fastened with wood screws to fir strips bolted to the car body. Plywood cleats, ¾"x4", or metal spline, were used on joints not backed with fir strips. Panels were sealed and the backs were given one coat of red mineral paint.

Remember—there is a type and grade of Douglas fir plywood for every railroad use. Douglas Fir Plywood Association engineers will be glad to cooperate with you in making full use of this material's many advantages.



SPECIFY DOUGLAS FIR PLYWOOD BY THESE "GRADE TRADE-MARKS"

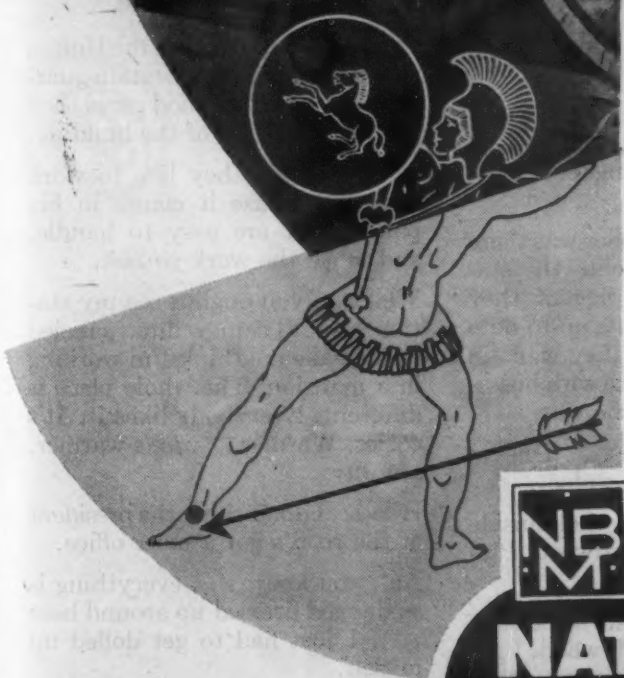
DOUGLAS FIR PLYWOOD ASSOCIATION

Tacoma 2, Washington

Today, of course, Douglas fir plywood is available only on highest priorities. Application for allocation must be made by suppliers to the War Production Board.

Protect
YOUR LOCOMOTIVES' ACHILLES HEELS





WITH N·B·M BRONZE CASTINGS AND BEARINGS

They stand up where stamina counts.

1. Driving box bearings
2. Rod bushings
3. Crosshead shoes
4. Engine truck bearings
5. Knuckle pin bushings
6. Valve and link motion bushings
7. Valve and cylinder rings

Not shown: Frame shoes and wedges
Trailer truck bearings

NBM

NATIONAL BEARING
DIVISION
ST. LOUIS • NEW YORK

AMERICAN Brake Shoe COMPANY

PLANTS IN: ST. LOUIS, MO. • PITTSBURGH, PA. • MEADVILLE, PA. • JERSEY CITY, N. J. • PORTSMOUTH, VA. • ST. PAUL, MINN. • CHICAGO, ILL.

I even got me a new cap . . .



Only a month or so ago, I realized I was gettin' old.

Sittin' in my office at the station, I overheard two fellers talkin' about how old-fashioned and shabby the place was.

Made me kinda mad, that did. I been agent here ever since the railroad come to Miller's Junction . . . 43 years ago. And I guess the old building seems sorta like a second home to me.

Then I got to thinkin': 43 years *is* a long time. That new bus terminal down the street sure is up to the minute. My old station can't hold a candle to it for style, or comfort.

I guess the place is gettin' old. By golly! . . . I guess *I'm* gettin' old.

Well, sir, I didn't want to think about that too much, so I stepped out in the waitin' room to see who it was talkin' like that.

Jim Bannion was standin' in the middle of the waitin' room lookin' all around . . . like he was tryin' to decide where to hang a picture. There was a young feller with him that I didn't know.

Jim said hello, and introduced the young feller. Jim's an engineer with the road . . . in charge of station maintenance and the like. Young feller with him was an architect.

* * *

Well, sir, as I say, that was a month or so ago. Things sure have changed since.

Jim and the young feller was there to see about remodelin' the station. Management figgers they better bring everything up-to-date . . . especially since they want to compete on even terms with busses and airplanes after the war.

And, honest to Pete . . . I never knew a job could go so fast.

They remodeled the whole inside with Weldwood Hardwood Plywood.

You know, that's quite some stuff . . . that Weldwood Plywood. I got to talkin' with the workmen that put it in. They told me that it can't warp or swell like solid lumber, because of what they called "cross-grain" construction.

They told me, too, that the United States Plywood Corporation guarantees every Weldwood panel they put in for the life of the building.

The men said they like to work with it because it comes in big panels that are easy to handle, and make the work go fast.

Well . . . you oughta see my station now. Them walnut-paneled walls make me think I'm working in a mansion. The whole place is different. Everybody likes it. It's cozier. Warmer . . . *feels* warmer, anyway.

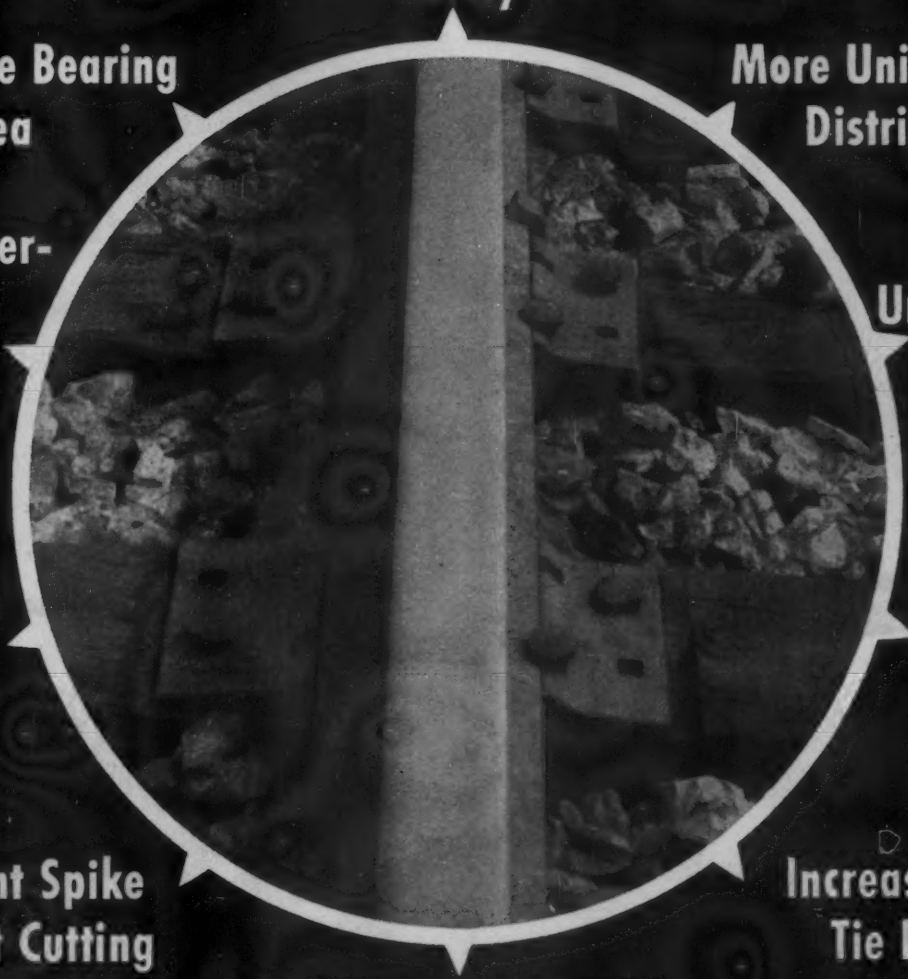
Honest, I don't think the president of the road's got a nicer office.

An', you know . . . everything is so danged dressed up around here . . . I just had to get dolled up myself.

This morning I got me a new cap to go with all this redecoration. That feller down to the bus terminal ain't got a thing on me now!

UNITED STATES PLYWOOD CORPORATION

616 West 46th Street, New York 19, N. Y.



THROUGH

A.R.E.A. TIE PLATES

PLANS "C" *and* "D" 112 LB. *and* 131 LB. RAILS

MINIMIZE RESULTS BELOW



The Colorado Fuel and Iron Corporation

MAKERS OF RAIL SINCE 1882

DENVER PUEBLO



THE TRAIN THAT WENT 'ROUND THE EARTH 25,976 TIMES!

Of course, no train ever circled the globe 25,976 times. But last year, the American railroads handled 740 *billion ton-miles of freight*—the equivalent of hauling an average-length freight train with an average net load around the equator 25,976 times.

An all-time record, the 740 billion ton-miles represent an increase of 83% over 1918, the peak year of the first World War. To make the record even more impressive, the railroads owned 25% *fewer* freight cars in 1944 than they did in 1918.

With the increasing tempo of the Pacific war, 1945 may well throw an even greater burden upon our railroads—but America depends upon her railroads for victory, and her railroads won't let her down.

We are glad that Teletype has had a part in the stupendous job accomplished by the American railroads, helping speed freight and passenger traffic. And Teletype, too, will continue to serve in the trying times ahead.

Teletype Corporation, Chicago, Ill.

TELETYPE

REG. U. S. PAT. OFF.

SUBSIDIARY OF

Western Electric Company

INCORPORATED

Buy all the War Bonds you can—and keep them!

Man with a Million Volts at his Finger-tips



The million-volt X-Ray machine, which rounds out the complete testing and checking facilities in PSF's modern laboratories, can be the means of far greater assurance to you in your casting purchases. It is the final and incontestable proof of soundness and reliability—and, in castings by PSF, it is added to advanced foundry techniques, highly modern machining facilities, and long experience—a combination that can work to advantage for you.



W&D 9661

46 YEARS OF STEEL CASTING KNOWLEDGE

Pittsburgh

STEEL FOUNDRY CORPORATION

GLASSPORT, PA.

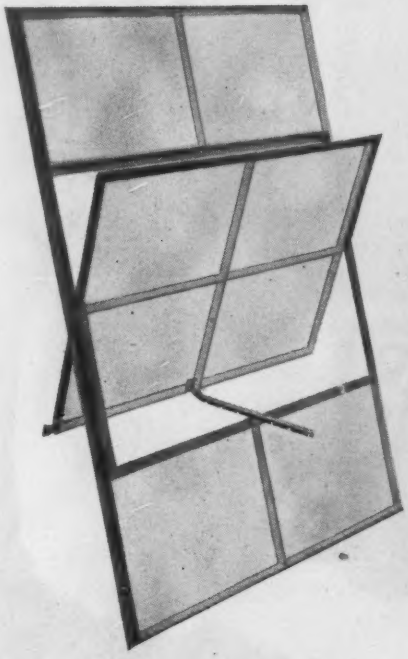
Sales Offices: NEW YORK • PHILADELPHIA • WASHINGTON AND CHICAGO

Windows described below not available until our wartime obligations are fulfilled

For Economical Daylighting

TRUSCON PIVOTED STEEL WINDOWS

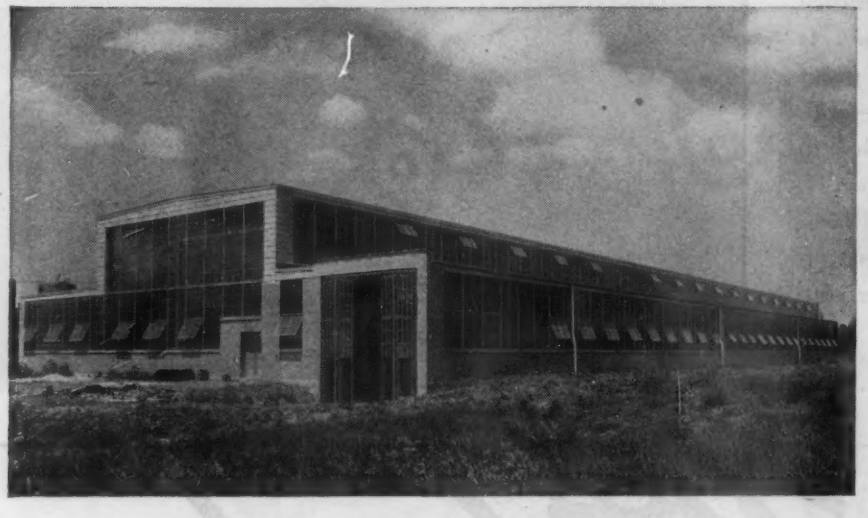
For railway industrial buildings of all types, Truscon Pivoted Steel Windows offer the maximum in sturdiness, long life, weathertightness and ease of operation. Below is a typical illustration showing results that can be achieved with these windows.

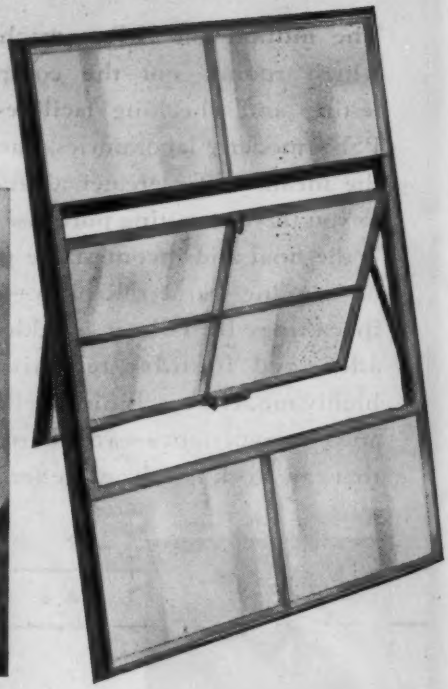




TRUSCON COMMERCIAL PROJECTED STEEL WINDOWS

These windows conform in general architectural appearance with the pivoted types, and can be combined in building construction with strict conformity to design. Commercial Projected Windows are used in the office portions where adequate screening and shading is an important consideration. Note the typical installation below:





Ask our experienced engineers to help plan your use of windows to obtain maximum daylight and ventilation at a minimum cost.

TRUSCON *Steel Company*

YOUNGSTOWN 1, OHIO

Subsidiary of Republic Steel Corporation

LIGHT AND AIR ARE FREE • USE THEM!

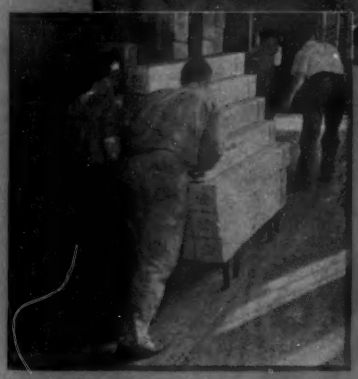
ARMY E NAVY

HAND TRUCKING TO "Electric Propelled" SAVES 46%





Above
One man and "TRANSPORTER" moving 1800-pound skid load into car. This handling operation is a big factor in reducing car loading time.



Above
One man and a "TRANSPORTER" easily move an 1800-pound load on a ramp.

Left
This same job done by the old way with hand truck requires four men.

A profitable solution to plant trucking problems was made by the Line Material Company, South Milwaukee, Wisc., through the use of Battery Powered "TRANSPORTER" PLATFORM LIFT TRUCKS.

PROBLEM . . .

Departmental and general plant skid load trucking of various materials used in the construction and operation of electric power lines. Trucking done in a series of three story buildings with bridges, overpasses, and ramps 6 to 30 feet, average grade 12%, requiring as many as four men per skid trucking.

SOLUTION . . .

"TRANSPORTER" operations effected monthly savings of $1020.00 based on 30,000 productive standard hours or 46% savings over back breaking job of hand trucking over ramps.

Write, phone or wire today for complete facts.

MANUFACTURERS FOR OVER 38 YEARS *Electric Propelled* INDUSTRIAL TRUCKS

ELECTRIC INDUSTRIAL TRUCKS
MEMBER OF ELECTRIC INDUSTRIAL TRUCK ASSN.
208 South La Salle St., Chicago, Ill.

AUTOMATIC TRANSPORTATION CO.
51 WEST 87th STREET CHICAGO 20, ILL.
Division of the Yale & Towne Manufacturing Company

A.C.F.-Built Hospital Car Utilizes



PRESSTITE ADHESIVE FELT TAPE *for* INSULATION AND SOUNDPROOFING

The first of the Army's new unit type hospital cars was recently completed by the American Car and Foundry Company's shops at St. Charles, Mo. One hundred of these deluxe type cars have been ordered by the Transportation Corps.

Equipped to provide the finest possible care of wounded men, Presstite No. 500 Adhesive Felt Tape is used in the construction of these cars under metal butt joints, etc., as insulation against frost, dust, and dampness, and as an anti-squeak and sound deadener. Presstite Enamelite is also used in these cars to bond and seal insulation of air conditioning and refrigeration systems.

Other Presstite sealers and adhesives that assure better, more economical car construction and maintenance include:

Presstico No. 504 and 505 Impregnated Adhesive Felt Packing.

Presstico No. 23212 Extruded Glass Sealer Tape: A superior, long-lasting, flexible seal for car windows — in tape or ribbon form, in thicknesses and widths to meet individual requirements.

Presstico Spot Weld Sealer: For tightly sealing any spot welded seam. Applied to faying surfaces before welding and produced in flow-gun, brush-on, and spray types. Forms a perfect seal against air and moisture. Prevents rust and corrosion in spot welded seams. Does not affect strength of welds.

Presstico No. 2390 Asphalt Waterproofing Mastic: For preventing rust and corrosion of railroad equipment.

It will pay you to know *all* the advantages of Presstite adhesives and sealing compounds for railroad use. Send your requirements to Presstite's *sealing specialists* and we'll gladly work out the best formula to suit your needs.

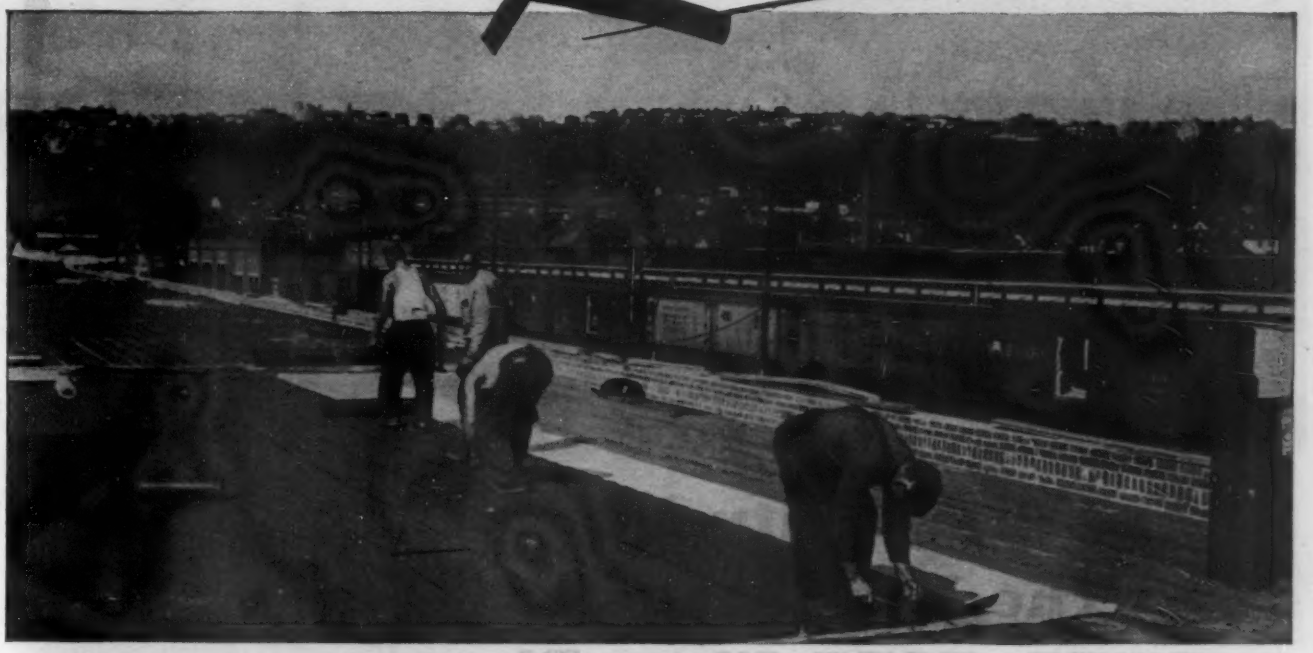
PRESSTITE
SEALING COMPOUNDS

PRESSTITE ENGINEERING COMPANY
3954 Chouteau Avenue, St. Louis 10, Missouri

BUY WAR BONDS — AND KEEP THEM!

KOPPERS

and the Railroads



Koppers saves money for Railroads in many ways

1. IT SAVES MONEY IN ROOFING. Railroads have millions of dollars invested in roofs. Any roofing materials which increase the life of a railroad's roofs mean big savings for the railroad. There are many records of coal tar pitch roofs lasting 20, 30 and even 40 or more years. Koppers is one of the principal producers of coal tar roofing and waterproofing materials.

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

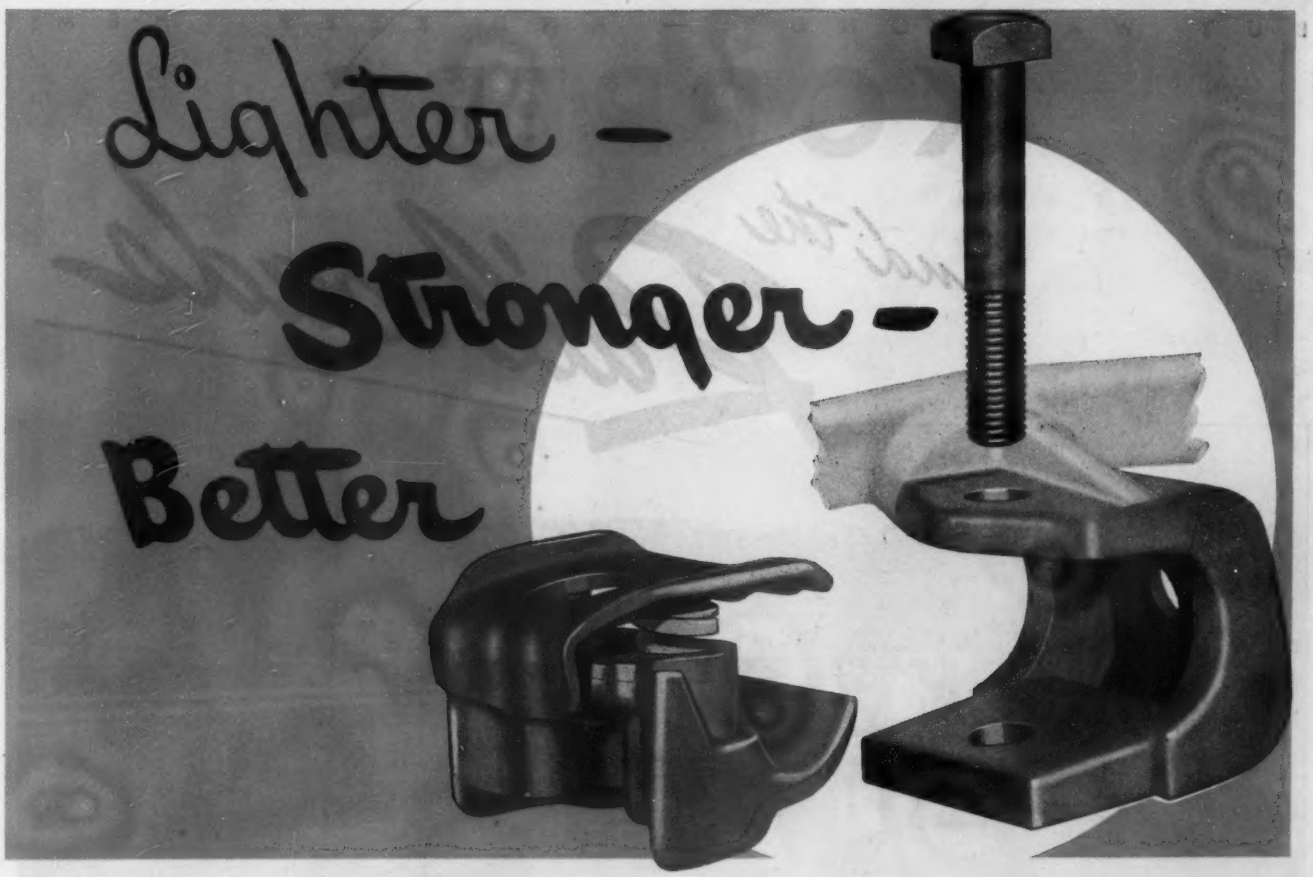


2. IT SAVES MONEY BY HELPING INCREASE LOCOMOTIVE AVAILABILITY. American Hammered diesel rings and American Hammered Bronze-iron Main Cylinder Packing greatly lengthen the periods between overhauls and keep locomotives in service longer. This has made it easier for railroads to handle wartime traffic volume.



3. IT SAVES MONEY IN LUMBER. The $150,000,000 annual savings made by railroads from pressure creosoting of ties alone point the way to equally big savings in bridges and other wood construction. Koppers offers either creosote for use in your treating plants, or pressure creosoted and pre-framed timber.

KOPPERS COMPANY, INC. PITTSBURGH 19, PA.



And Simplicity itself . . .
The New Schaefer EVER-TITE Wear Plate



The new Schaefer EVER-TITE Wear Plate is easy to install in the side frame bracket. While in service, springs under compression hold it rigidly in place and save wear on the side frame bracket. Simplicity of construction and rugged design make the Schaefer EVER-TITE Wear Plate ideal for high speed freight service.

Schaefer Appliances

STANDARD ON MOST ROADS

LIGHT WEIGHT DESIGN INSURES MORE THAN CAR LIFE

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.

DROP-FORGED FOR LIGHT WEIGHT, HIGH STRENGTH, LONG LIFE AND SAFETY

Repo

February 24,

Report **No. 7** on the latest advance in railroad communications



V.H.F. RADIO GETS AROUND!

Mountains, hills, steel bridges, tall buildings and other obstacles do not block V.H.F. (Very High Frequency) Radio. Over fifty thousand miles of tests by leading American railroads have conclusively demonstrated that a direct "line of sight" between sender and receiver is not necessary for V.H.F. communications.

V.H.F. radio waves are reflected in much the same manner as light. Just as indirect lighting can be seen throughout a room even though the bulbs themselves are concealed so V.H.F. radio messages can be received behind buildings, around curves and over mountains, even though the transmitter may be completely "out of sight."

Thus despite obstacles of terrain or equipment V.H.F. radio assures constant end-to-end train communication. And in yard operation a switch engine may be anywhere in the area, in a train shed or waiting under an overpass, behind a tall building or under an elevator, but its crew will never be out of touch with the yard master.

This is but one of the many advantages of V.H.F. (Very High Frequency) radio. It will pay you to write for further details to Bendix Radio—first to develop V.H.F. Radio equipment for Railroads.

BENDIX IS A TRADE-MARK OF BENDIX AVIATION CORPORATION

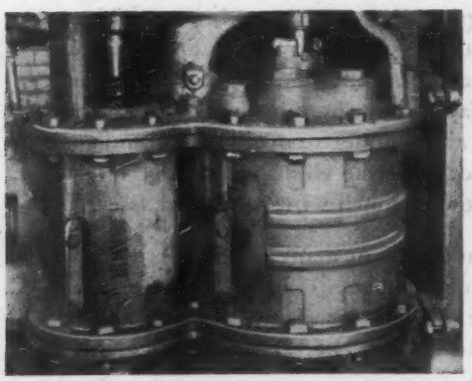
Bendix RADIO DIVISION

BENDIX AVIATION CORPORATION, BALTIMORE 4, MARYLAND

How to Get Up-to-Date on 8½" Air Compressors



Side View Showing Clearance



This view shows air cylinders with mounting pads for F-2 lubricator as now supplied for replacements. Conversion can be made by applying the lubricator and new top head.

The advantage of dependable, metered lubrication and the all-around improvement in compressor performance that stems from it is not limited to new compressors. The F-2 lubricator as well as the integral-mounted governor can be had for compressors in service by replacing the top head and the air cylinders. As shown by the clearance diagram above, these parts can be added to existing compressors and stay within existing clearances. To facilitate conversion all air cylinders are now made with the mounting pads for the F-2 lubricator.

Westinghouse Air Brake Company

Wilmerding, Pa.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 118 February 24, 1945 No. 8

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y. AND 105 W. ADAMS STREET, CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING, CLEVELAND 13: TERMINAL TOWER, SEATTLE 1: 1033 HENRY BUILDING, SAN FRANCISCO 4: 300 MONTGOMERY STREET, ROOMS 805-806. LOS ANGELES 14: 530 WEST 6th STREET.

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RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PAPERS (A. B. P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.).

SUBSCRIPTIONS, INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR $6.00; 2 YEARS, $10.00; FOREIGN COUNTRIES, NOT INCLUDING DAILY EDITIONS: 1 YEAR, $8.00; 2 YEARS, $14.00. SINGLE COPIES, 25 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET, NEW YORK 7.

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Wheels for Post-War Railroad Service *382*

The wheel and wheel axle are the most important parts of a car or locomotive, according to C. T. Ripley of the Wrought Steel Wheel Industry, for their failure can result in serious wrecks. He discusses wheel characteristics, standardized designs and suggests a central testing plant which would be available to all railroads.

New Deal Plans to Alter Economy *384*

Super highways, T.V.A.'s and other socialistic ventures force business to seek government financing, declares Walter Chamblin, Jr. in this article.

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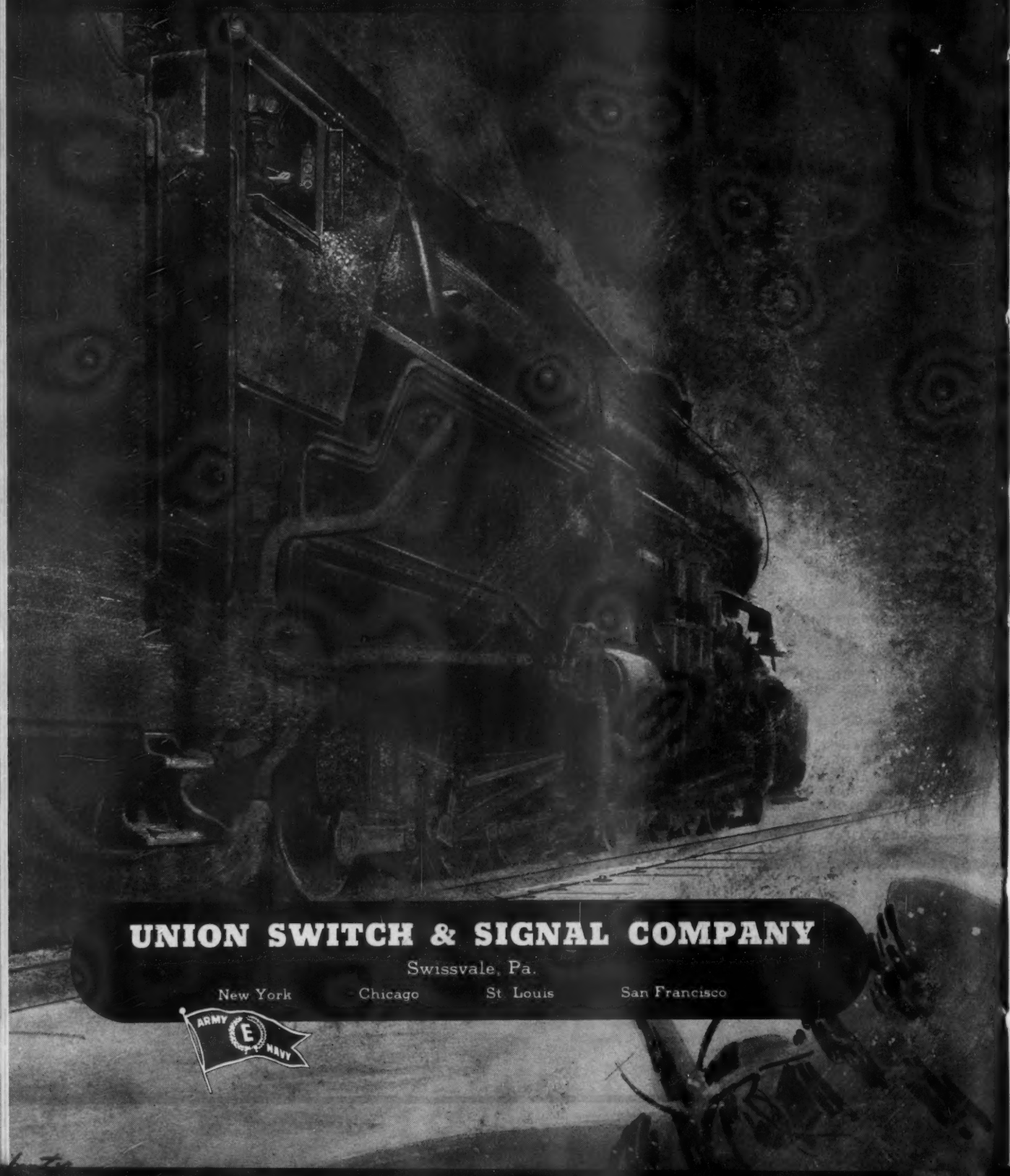
The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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ARMY E NAVY

The Week at a Glance

STRIKE ON COPPER ROAD: The factual background behind the strike of B. of L. F. & E. employees on the Bingham & Garfield on January 25—which was terminated when the Army took over the property—is given in an article in this issue. Trouble arose when the union insisted on a second man in the cab of three diminutive trolley-electric locomotives, operated only in yard service (see picture on page 387). The majority of a three-man emergency board made a finding against the union's contention, whereupon employees were called out. They went back to work (with only one man in the cab) when the Army took over a few hours later. Continuation of the strike would have shut off some 28 per cent of the nation's domestic copper production, and would have thrown over 5,000 miners out of work.

●

WHY BOILERS BLOW UP: Low water caused 19 locomotive boiler explosions in the fiscal year '44—and an editorial in this issue contends that that figure is too high; it ought to be zero. It would be zero, too, if a relatively few simple rules, which are set forth in the editorial, were always observed. It isn't just the men in the cab and at the roundhouse who are involved either. A principal contributing cause to low-water explosions is the reluctance of employees to dump a fire when the water gets low, as long as they believe a fair chance exists of restoring a safe level without resorting to such a drastic preventive. Operating practice which not only would not take dumping a fire amiss, but which would emphatically demand it, whenever danger threatened from low water, would probably be as helpful as any one step that could be taken in reducing these disastrous casualties pretty nearly to absolute zero.

●

D. W. FRASER'S WAR REPORT: The president of the American Locomotive Company told the New York Railroad Club last week what he saw on his recent trip with a party of five other industrialists in a tour of the European fighting zone as the Army's guests. His account is given in brief elsewhere in this issue—just instance piled on instance of how materials can substitute for the lives of our fighting men. He saw big guns capable of firing hundreds of rounds daily which were actually sending over only a dozen because of the shortage of shells. On the other hand, he collected plenty of evidence of what an adequate preliminary shelling will do toward enabling our forces to advance with a minimum of casualties. Having listened to such testimony, no American would want to have on his conscience even a tiny contribution to a shortage of anything our armed forces might need.

●

LARGE JOB FOR CONNORS: The U. P.'s operating vice-president, who has only recently returned to his railroad from a spell with the O. D. T., has been designated by President Roosevelt to see what he can do about the 5,000 undecided cases which have piled up on the docket of the first division of National Railroad Adjustment Board. The President told Mr. Connors that the unions' chiefs had advised him that most of these undecided cases involve questions already ruled upon in previous board decisions. (Could this be the theory that, because Road A has an improvident or carelessly-worded agreement in its schedule, the same rule should be applied to Road B which has never agreed to anything so unwise—a sort of Gresham's law for the precedence of the bad over the good?)

●

BUSINESS' MORALITY: The public is being constantly "educated" by propaganda from business sources to favor federal appropriations and other political aids to aviation, and highway and waterway transportation. How is this same public, its reasoning power softened by such propaganda, going to be able to withstand similar appeals for political help from agriculture, organized labor and endless other interests? Yet, when everybody goes to government for support, political and economic freedom ends, and the citizen becomes a vassal to the state. Our leading editorial in this issue lays the trend in this country to totalitarian socialism squarely on the doorstep of selfish business interests, whose drive for political favors initiated the impetus toward economic and social demoralization, and whose unrelenting efforts for still more political help are supplying fuel to the forces of disintegration. The community seems wanting in moral integrity on the part of its leadership.

●

WHAT NEW DEAL PLANS: Within a month after the November election, Walter Chamblin, whose eye is experienced at penetrating the Washington political miasma, disclosed in specific detail in a speech to the Tax Foundation at New York just what the left-wing New Dealers of the Lord Keynes cult have in store for us. We publish the substance of this speech as an article elsewhere in this issue—in the belief that events subsequent to its delivery (especially the President's annual message to Congress, the naming of Wallace as Commerce secretary, and the "Full Employment Bill" discussed editorially in our February 10 issue) conclusively demonstrate Mr. Chamblin's prophetic powers. His complete picture of the economic and social revolution now about to move in upon us reveals information of shocking importance to every American.

●

B. OF L. E. ON PENSIONS: The Engineers' Brotherhood has ideas on the broadening of pension and unemployment benefits to railroad employees which are considerably at variance with those of the brothers who adhere to the Railway Labor Executives Association. As reported in our news columns, the B. of L. E. wants to be assured of the "complete safety of the funds for providing annuity benefits" already provided for, and has misgivings about the "frenzied finance" urged in support of more and more payments to more and more people.

LET THE SUBSIDIZED PAY: Has any other railroad union spokesman ever shown so complete a comprehension as the B. of L. E.'s John Corbett of the harm done to railroad jobs and wages by government appropriations for capital expenditures on other forms of transportation? Mr. Corbett asks that such appropriations cease unless approved by the I. C. C. and that, where these gifts of tax money are granted, the beneficiaries be required to reimburse railroad employees for the job opportunities and other benefits they lose thereby. He also objects to benefits not in ratio to contributions.

●

ALASKA RAILROAD: A 12-mile cutoff, involving heavy construction (two tunnels, one being 13,090 ft. long) under difficult weather conditions, has brought the Alaskan interior 52 miles closer, and by a less rugged route, to tidewater at a port easier to defend than Seward. This interesting piece of railroad construction is described in an illustrated article herein.

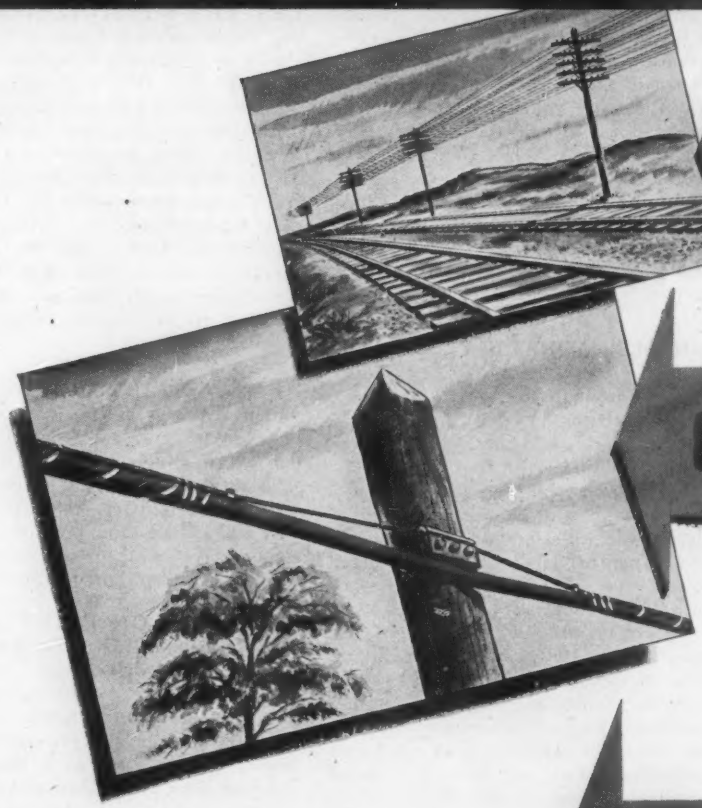
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RESEARCH ON WHEELS: Each of the wrought-steel wheel manufacturers has its own "large, well-equipped, well-staffed" laboratory, continuously studying the improvement of their product, "particularly from the metallurgical viewpoint." In addition, "the industry as a whole has for the past four years been making continuous use of the University of Illinois Testing Laboratory"—and disclosures of research are "immediately made use of in the producing plants." Thus Chief Engineer C. T. Ripley reveals the set-up for the constant improvement of this important and costly factor in the maintenance of safe and reliable railroad service, in an article on page 382 in this issue. Mr. Ripley suggests that the A. A. R. should provide a 30-mile test track, equipped with necessary instruments and laboratory to provide "accelerated tests of important railroad materials."

●

ARMY LEARNS TO RAILROAD: The contrasting experience in railway operation of our Army in France in 1917-18 and 1944-45 is set forth in an article in this issue. The Army, between the wars, forgot, it is true, the need for unifying its transportation forces as an independent service—but this lesson was re-learned and re-applied in 1942, before our troops landed in France this time. The result was, this time, that when our forces set foot on the Continent they had with them both railroad men and railroad equipment "prepared to run the railroads right from the holds of the ships to the muzzles of the guns." This article, which comes from official Army sources, states that "railroads in the first great war were reluctant to release their experienced men, but such was not the case when the United States Army called upon them for aid in the present conflict." This statement pretty well disposes of the press dispatch from Paris this week, discussed in our editorial pages, which reported a charge that the railroads have not supplied the Army with competent officers.

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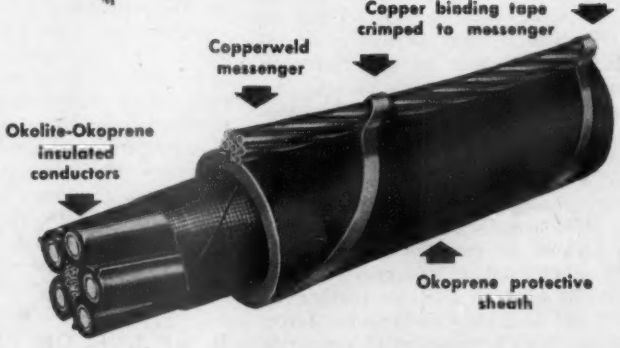
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RAILWAY AGE

●

Thirty Pieces of Silver

Those who look upon the current and proposed development of air transportation as a private business—rather than largely a socialistic activity with a little "free enterprise" for window-dressing—should take a look at the January issue of the "C. A. A. Journal," official monthly publication of the Civil Aeronautics Authority (a branch of the Department of Commerce), for a salutary enlargement of their understanding.

This periodical offers a large quantity of evidence of the extent to which government has preempted the economic functions of promoting, financing and providing facilities for aviation, as it has long been doing for highway and inland waterway transportation. The publication reviews C. A. A. activities in 1944, including plans for "3,050 new airports and improvement of 1,625 existing fields"; a "$20,000,000 modernization of C. A. A. radio aids to flying"; "stimulation of aeronautical education and flight training by a limited [sic] program of federal aid to colleges"; and "cooperation with manufacturers in development of aircraft that will have broad popular appeal."

If the Department of Commerce under the "conservative" Jesse Jones has gone to such lengths as this in taking over activities which used to be considered the exclusive responsibility of self-supporting private initiative and enterprise, what may we not expect when and if the "planned economy" totalitarian, Henry Wallace, assumes control of the Commerce department?

How Private Initiative Is Crowded Out

Little imagination is required to visualize what an insignificant morsel of the field of aviation development remains to private resourcefulness and thrift with the government having assumed so many of these functions. Private money can hardly be expected to go more than a very little way in the provision of fixed plant for air, waterway or highway transportation, because it cannot hope to recoup its commitments by collections from customers when vastly larger federal facilities are made available at only a nominal charge or entirely free. What sensible inventor would toil away on his own time and with his limited individual resources, in a field of endeavor where he faces the discouraging competition of millions of dollars of taxpayers' money lavished upon government-financed research?

Even those leaders in organized business, politics and journalism, however, who are most relentless in their castigation of the incursions of New Deal socialistic totalitarianism into manufacturing, banking, agriculture, and labor relations have little or no fault to find with parallel governmental invasion of transportation, of infinitely greater magnitude than the socialistic sorties into other fields. Most of these critics are overcome with silence regarding the inroads of socialism in those areas where some segments of business profit from, and hence are in league with, the totalitarian trend.

It must now be evident to any discerning person that the decay of our political and economic freedom is far advanced, and that it has its origin primarily in the realm of moral conduct. The disintegration of the old American principle of a government of limited powers cannot be blamed in the first instance upon the economic ignorance of the electorate, deep as that is—but rather on the inconsistent behavior of business leadership which has created or aggravated popular confusion and prepared the way for general acceptance of political action subversive to the traditional safeguards of individual freedom.

Business "Educates" People into Socialism

With public opinion being continuously "educated" to look upon taxpayers' aid to aviation or highway or waterway transportation as "helpful to business," and hence praiseworthy—how is it possible for the same popular audience to believe that parallel governmental intervention in behalf of agriculture, organized labor, and the consumers of electric power or manufactured products is reprehensible? Having been persuaded by business that "interventionism" in behalf of business is desirable, the electorate is left without any defense to appeals that it support similar intervention in behalf of other elements in the community which are obviously far more deserving of political assistance—if it is to be given to anybody—than business is. The point is that it is business' quest for special favors which has initiated and continues to supply fuel to the whole fateful chain of extension of political power throughout the economy. Business leadership with the moral discipline of its forefathers would not thus have sacrificed principle to a temporarily profitable expediency.

Thus it is that the economy is threatened with socialization and ruin, principally because its leaders refuse to set an indispensable example of candor and integrity; they lack the moral fortitude to obey their professed principles of reliance upon free and self-supporting enterprise where betrayal promises larger immediate advantage.

The great biologist, Alexis Carrel, recently deceased, observed ten years ago that weakening of character is usually followed by a failure also of the intelligence; and that in almost every country of the world a deterioration was observable in the intellectual and moral qualities of those charged with leadership. Other countries have paid the extreme penalty for allowing conditions to continue in such a course, but with us, possibly, a chance may still remain to correct and reverse this trend.

Flats in Sharp Demand

Military needs have brought the supply of flat cars into sharp focus ever since Pearl Harbor, and demand for this type of equipment is still increasing. The limited supply has been made to meet the many needs for this type of car only by the railways' working as a single unit with the cooperation and help of the Car Service division. It frequently happens that the railways are requested by military authorities to supply large numbers of flat cars on very short notice. Within the last 60 days, 900 open top cars were requested for loading at an eastern point with a definite "deadline" date. Without any question as to what loaded movement would be received by any line, the four railways serving this particular military installation cooperated in hauling empty cars, in some cases long distances, in order to meet the deadline. In the Middle West a request was received to supply 675 gondolas and flat cars to be loaded within five days, and all of the railways in the vicinity cooperated in sending empty cars to the required point, although many of them did not receive any of the outbound traffic.

Special attention has had to be given to prompt movement of one particular type of flat car. In this mechanized war many unusually large pieces of machinery have to be moved. At the beginning, government transportation agencies were apprehensive that the supply of large capacity flat cars of the depressed or well types, with more than 151,000 lb. capacity each, would not be sufficient to meet the requirements. Under peace-time railway operations these fears would have been well grounded, since the total railway ownership of this type of equipment is less than 500 cars. Almost at once the difficulties were intensified by the fact that the Navy leased 60 of these cars, so that only about 400 were available for general use and these were owned by a limited number of railroads. Only three western railroads and only one southeastern railroad owned any cars of this type.

The production of unusually bulky and heavy machinery requiring this type of equipment increased particularly in the Midwest and Southwest, and, to complicate the situation further, many of these cars are loaded with machines, turbines or other materials that require somewhat circuitous handling because of the narrow clearances on certain tunnels and bridges. With the backing of the railways involved, the Car Service division set up a method of control under which the location of every one of these cars is known at all times, so that, after they are unloaded, the Car Service division is able to intercept or divert them, with the concurrence of the owning railways, to meet demands. In this manner, by eliminating all competitive considerations, a rigidly limited supply of cars has been made adequate to meet a variety of special demands.

It is such desirable inter-railroad cooperation in the national interest which the Justice Department's "anti-trust" campaign against the railroads, if successful, would completely inhibit or destroy.

Not a Record To Be Proud Of

In the year ended June 30, 1944, there were 19 locomotive boiler explosions on the railroads, due to low water, in which 12 persons were killed and 62 injured. It matters not so much whether this total was less or more than in some previous period, because the important thing is that there were *any* accidents due to this cause. It might be rather ridiculous to make the blunt statement that there is no excuse for such accidents, for to do that would be to ignore their basic cause—human carelessness and poor judgment.

In discussing boiler explosions one is faced with the necessity of repeating again and again arguments that have been used as long as there have been steam locomotive boilers. These accidents, except for that one case in a million, are the result of man-failures; and in all fairness to the men who operate locomotives it is well to acknowledge right at the outset that such man-failures are not always chargeable to the men in the cab.

We have had sufficient experience in the design and

A Plain Citizen Gets in His Say



construction of locomotive boilers to make it reasonably safe to say that any boiler constructed in accordance with I. C. C. requirements is a safe boiler. . . . if (1) the safety and protective devices which have been installed on it are maintained, at all times, in an operative condition; if (2) these devices are inspected both by engine-house inspectors, the engine handlers and the engine crews to make sure that they are functioning properly before a locomotive ever leaves a terminal and; if (3) the water level indications are constantly checked by the engine crew and water supplied to the boiler to maintain a proper level in accordance with its requirements. These "ifs" having been satisfied, there is rarely ever an excuse for loss of life, an injury or the destruction of property as a result of a boiler explosion. Why, then, do we continue to have them?

There is one item of information that the I. C. C. Bureau of Locomotive Inspection report does not show, and that is the number of near-explosions—those unrecorded cases where the initiative, the good judgment and the quick action of an engine crew saved life and property by dumping a fire when it became evident that there was no chance of maintaining the proper water level in the boiler. Possibly greater publicity should be given to these incidents, because behind them lie the controlling factors that operate to prevent boiler accidents. If every railroad management could impress indelibly on the mind of every employee connected with locomotive boiler operation the simple fact that there are times and circumstances when there is only one thing to do—*dump the fire*—we should see an immediate reduction of boiler accidents.

A Reputation for Miracles Is Hard to Live Up to

In only one of the many railway battalions serving the United States armed forces on widespread battle fronts does there appear to have developed serious disregard of responsibility. A great many railway units have distinguished themselves far beyond the ordinary—not only in the line of duty, but outside it. In instance after instance, Army railroaders have proved themselves not only resourceful railroad men but good soldiers as well. Be it remembered, too, that the railroads provided the officers and the railroad training of these troops at a time when their own demands for experienced personnel and facilities were pressed to the utmost to meet military demands for domestic transportation.

And yet, perhaps because transgression is so unusual among Army railroaders, the one highly localized instance of dereliction has received in the press far more publicity than any of the scores of instances of meritorious service by Army railroaders. A citation of extraordinarily good service is publicized once, while a delinquency is reported repeatedly.

A climax, let us hope, to the distorted picture thus unfortunately being portrayed of the quality of Army railroad service was reached on February 21 in a press dispatch from Paris on the trial of the commanding officer of the battalion in which much delinquency was discovered. This dispatch quoted an Army spokesman, a witness at this officer's trial, as blaming the railroads for providing the Army with railway officers unqualified for their duties.

The railroads are the one sector in all of industry which was expected to, and did, achieve peak output without the assignment of government help either in money or men—and they took on the sponsorship and training of military units in addition. There seems to be an impression abroad that the railroads have unlimited resources, from which they can produce endless miracles in any emergency, not only with no provision for the wherewithal to accomplish such prodigies but instead with endless legislation against them and favoring their competitors, denying them more and more the means to supply what is demanded of them. Is it not the duty of the Army as well as railroad management to correct the mistaken impression that railroads have endless capacity to pull things out of a hat which have never been put into it?

Railway Test Track Suggested

In connection with the recent discussion of railway research in the columns of *Railway Age* and elsewhere, it is interesting to note that both methods of testing railway equipment and devices, suggested and generally used up to the present, have rather serious limitations. Laboratory tests with controlled conditions and accurate instruments develop a vast amount of highly pertinent information. Moreover, accelerated tests can be devised which are designed to give the equivalent of many years service in possibly a few weeks or months. The only thing which can be said with certainty about laboratory tests, however, is that they may not and usually do not reproduce actual road service conditions. Hence any deductions regarding probable service performance must be drawn with caution and be subject to check in actual operation of the equipment.

Another and different set of obstacles stands in the way of scientific tests of railway devices in actual road service. In this case, it is generally impossible to vary only one condition at a time and thus study its effect, but several variables are involved, the results of which are difficult to separate. In all road tests, it is usually more difficult to make and keep accurate instrument readings and records than in the case of laboratory tests, owing to vibration, train shocks, varying atmospheric conditions, etc. But perhaps the greatest difficulty of all, when a dynamometer car or special test train is placed in service on a busy railroad, is the fact that normal operation must not be interfered with. As a result, a test track with the desired characteristics is not always available; desired test speeds cannot be used at will; test runs must be scheduled at intervals between regular trains with attendant exasperating delays and more or less regardless of test requirements. Moreover, safety is paramount and no type of equipment or set of conditions may be tried on the test train which can conceivably foul an adjoining track and cause an accident to a passing train.

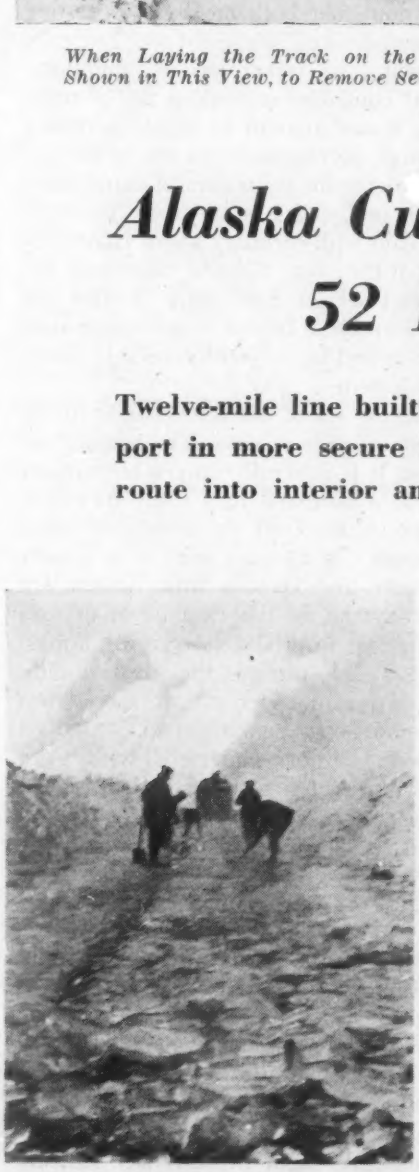
Many of the difficulties mentioned would be met if the Association of American Railroads were to acquire and set aside a section of railroad for testing purposes only. This specific suggestion was advanced by C. T. Ripley, chief engineer, Wrought Steel Wheel Industry in a paper, "Wheels for Post-War Railroad Service," presented at the December 11 meeting of the Chicago Car Foremen's Association, and reported elsewhere in this issue.



When Laying the Track on the Cut-Off It Was First Necessary, as Shown in This View, to Remove Several Feet of Snow from the Subgrade

Alaska Cut-Off Saves 52 Miles

Twelve-mile line built to serve new tide-water port in more secure location creates shorter route into interior and has other advantages



The Difficulties of Keeping Railway Tracks Open in Alaska During the Winter Are Illustrated by This View Showing Ice-Removal Work Under Way at a Point 56 Miles North of Seward

As a result of the construction of a single-track cut-off line about 12 miles long, railroad traffic to and from the interior of Alaska is now moving over a route of the Alaska Railroad that is approximately 52 miles shorter than the original line. Not only is the cut-off notable for the operating and other advantages, some of a military nature, that it has produced but also because it was constructed at least in part under extreme weather conditions that imposed many difficulties. Adding to the interest of the project is the fact that it involved the construction of two tunnels, one of which is 13,090 ft. long. While the cut-off was built during the early months of the war, sufficient information to permit the project to be described in any detail was released only recently by the War Department.

Originally the tide-water terminus of the Alaska Railroad was located at Seward on Resurrection bay. From this point the road extended into the interior in a generally northerly direction, terminating at Fairbanks, which is 470 miles from Seward. A short time prior to our entry into the war it was decided, in view of the threatening international situation, to establish a salt-water terminus for the railroad in a more protected location where it would be less vulnerable to attack. The location chosen is a point on Prince William sound and is located a considerable distance north and somewhat east of Seward. Hence, it is farther out of range of possible attack by the Japanese and is situated on a harbor that is reported to be less difficult to defend than that at Seward. Also located on this harbor is the terminus of an important highway.

The new port on Prince William sound is known as Whittier. From this point a line of railway was built in a westerly direction to a connection with the existing line extending north from Seward. The new line, known as the Whittier cut-off, is 12.34 miles long and joins with the original line at a point known as Portage. As a result of the construction of the new port and cut-off line, the distance from tidewater to the interior of Alaska has been reduced 51.8 miles. For this reason a number of benefits are being realized. In the first place, a reduction in freight rates for shipments destined for the interior has become possible, a factor that could conceivably have a considerable influence on the future development of the territory served.

Secondly, and possibly of greater importance, the shorter route has many physical advantages as compared with the original line from Seward. This latter line traverses extremely difficult terrain, with heavy grades in both directions, and has two summits, one of which is more than 1,000 ft. above sea level. Also, the line has a large number of curves, some of them quite sharp, the total amount of curvature between Seward and Portage being 5,871 deg. At one location a complete loop exists in the alinement on a grade of 2.2 per cent. Because of these features the original line is extremely vulnerable to sabotage and attack, and is also costly to maintain and operate, especially during the winter. As a matter of fact, it is estimated that, under normal business conditions, the new cut-off will pay for itself in 10 or 11 years and that under present conditions less than half this time would be required.

Has Two Tunnels

The Whittier cut-off was initiated and located by the Alaska Railroad and, because of its military importance, was sponsored by the War Department. It was constructed by the United States Army Engineer Corps and by a private construction company. The cut-off was projected through difficult terrain, and its outstanding feature is that it incorporates two tunnels, one of which, known as the Passage Shoulder tunnel, extends 13,090 ft. through the Kenai mountains. The other bore, known as the Turnagain Shoulder tunnel, is somewhat shorter, being 4,911 ft. in length. Both tunnels were drilled through rock and are not lined except that at both portals of the Passage tunnel, and at one portal of the



Sketch Map of the Alaska Railroad Showing the Whittier Cut-Off

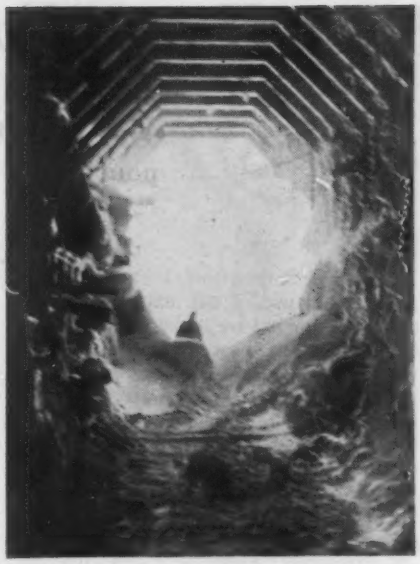
Turnagain tunnel, there are short sections of timber lining. At these same three locations there is a short length of timber snow shed outside of each tunnel.

Aside from the two tunnels, the new cut-off is not marked by any unusual or outstanding physical characteristics. Beginning at the dock level at Whittier, which is about 20 ft. above sea level, the line rises on grades ranging up to 0.7 per cent to a summit between the two tunnels, which, located about five miles west of Whittier, is 141 ft. above sea level. The Passage tunnel, situated on the east side of the summit, is on an ascending grade of 0.56 per cent and has a tangent alinement. The Turnagain tunnel, located just west of the summit, is on a descending grade of 0.58 per cent and also has a tangent alinement. The adjacent portals of the two tunnels at the summit are separated by a section of tangent track 0.8 miles long. For practically the entire distance of about seven miles from the summit of the grade westward to Portage, the line is on a descending grade, the maximum being the grade of 0.58 per cent in the Turnagain tunnel.

Curvature Relatively Light

Considering the mountainous nature of the country traversed, the amount of curvature on the cut-off line is relatively light, totaling only 229 deg. of central angle, as compared with the 5,871 deg. on the original line between Seward and Portage. The largest part of the curvature on the cut-off line is concentrated in a two-mile section of rather rugged terrain near the easterly, or Whittier end of the line. Even here, however, the curvature is not excessive, there being only four curves ranging from 3 deg. to 8 deg. Elsewhere, the cut-off is mostly on a tangent alinement, except that there are three curves in that portion of the line west of the summit, two of which are 1-deg. curves while the other is a 5-deg. curve.

The amount of grading required in the construction of the line, other than that occasioned by the drilling of the two tunnels, was not excessive. The higher fills and the only cuts on the line are found in the same two-mile section of the cut-off at the easterly end where the bulk of the curvature is located. Here the maximum fill is about 35 ft. high and the deepest cut is approximately 45 ft., although there is one very short cut that is nearly 70 ft. in depth. The section of line between the two tunnels at the summit is carried on an embankment having an average height of about 15 ft., but the entire portion of the line west of the summit, except in the Turnagain tunnel, is supported on embankments of only nominal height, the maximum rarely being more than five feet. Bridges on the line are all timber pile trestled, there being six structures of this type, of which the longest is 209 ft. in length. Also there are a number of culverts, consisting almost entirely of 30-in. corrugated iron pipe.



Showing Snow and Ice Conditions at a Portal of One of the Two Tunnels on the Cut-Off Line

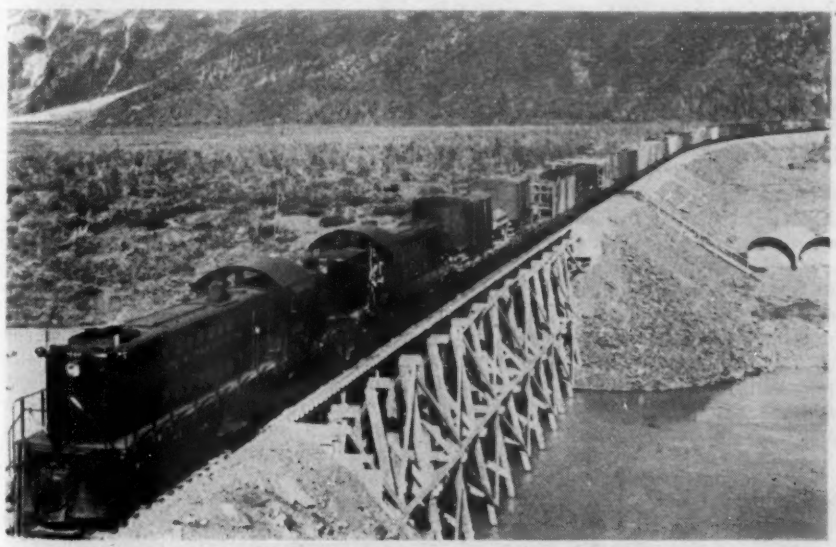
Track Work Difficult

Since much of the track on the new line was laid during one of the most severe winters in many years, the construction crews carrying out this work encountered many difficulties and hardships. At least part of the track work was performed by an Army unit that had its headquarters at Portage, the westerly terminus of the cut-off. When this outfit arrived on the scene to start the track-laying work there was as much as eight feet of snow on the ground in many places, and the temperature was far below zero.

Before the ties and rails could be placed the previously-graded roadbed had to be cleared of snow, which was done by means of a crawler bulldozer. At the time the track was laid the roadbed consisted of a solid sheet of ice, at least 18 in. in depth. However, there was no alternative but to lay the track directly on the ice. Later, as the ice melted with the spring thaws, crushed stone ballast was distributed and the track was surfaced. The maximum amount of trackage laid in one day was 1,800 ft., this record being achieved in the Turnagain tunnel. After the track had been laid in the Passage tunnel it was necessary to maintain a 24-hour vigil to remove the ice that accumulated constantly from drippings.

When train operation was started over the cut-off it was found that, if steam locomotives were to be used, it would be necessary to install forced-draft ventilating systems in the two tunnels. Otherwise, it would be necessary to establish a headway of about two hours between trains to allow time for the smoke and gases to escape from the tunnels. Since

(*Continued on page 377*)



Freight Train Drawn by Two Diesel-Electric Locomotives, Passing Over One of the Trestles on the Cut-Off

How Home Folks Can Save Soldiers' Lives

A visit to the fighting forces in Europe shows that pouring on the supplies is surest way to curb casualties



By DUNCAN W. FRASER
President, American Locomotive Company

NEITHER you nor I can have any true sense of the capacity of war to consume what we make, until we have come closer to the machine of war. It was when we stood near one of the great batteries of anti-aircraft guns in London that I first began to realize how much we must supply to keep the war machine going. Lives of our men will be saved if supplies are adequate. Lives will be saved if it is possible to fire 300,000 shells instead of 100,000 into an objective. General Plank told us: "We are short of locomotives and the time will not come when we can have too many of them."

On a Friday morning we flew to Paris in a DC-3 plane. Paris was cold. There was no fuel. The next morning we headed for Cherbourg by plane. We passed over Caen, which was devastated, and St. Lo which was little more than a heap of rubble. Two hundred thousand 105-mm. shells were pumped into St. Lo.

We got to Cherbourg about noon. Coming into Cherbourg we saw from the air some of the destruction, and some of the work done by U. S. engineers. The Germans demolished everything they could in order to make landing difficult or impossible but when we were in Cherbourg there were 47 Liberty ships in the harbor and pipelines were pumping oil from Cherbourg to the front.

The Amazing "Ducks"

Among the developments of this war none is more amazing than the amphibious "Ducks." We could see these "Ducks" hurrying out to the ships, loading up, and scurrying back to shore, where they run up on land and deliver their cargoes whenever they may be needed.

At Cherbourg I got another insight into the magnitude of the supply problem. It was an item of three hundred thousand telephone poles. These poles were dragged across the beaches during the early days of the invasion, but were not needed, as it turned out. Our forces had expected the Germans to tear down and destroy telephone lines and the poles. The Germans did not destroy the poles and the three hundred thousand were not needed—but they were there. We are apt to forget that provision must be made for many things which never happen.

Cherbourg is handling several times the normal peace-time tonnage of the port. But until the railroad was running, supplies were being hurried to the war-front by trucks. You will get another glimpse of the huge capacity of war to consume what we at home produce when you visualize 7,000 to 10,000 trucks (actually they were 2½-ton trucks, although they were loaded with four or five tons) hurrying at 40 m.p.h. between the beaches and the battle lines. The life of one of these trucks was estimated at only 14,000 miles. Tires were being consumed at the rate of about 5,000 a day during the period of this trucking operation.

When the railroad was put into operation the famous "Red Ball" truck highway was virtually discontinued. The armed forces have taken some 700 locomotives into France and once again it is becoming clear that when a big job of land moving must be done there is nothing quite like a railroad. It is estimated that a ton of supplies is needed per month for each soldier. It takes 30 tons of maps every day during a period when the armed forces are active and moving.

At the time of which we are speaking the engineering organization—about a quarter of a million men—had constructed or reconstructed scores of air fields and got thousands of miles of double and single track into operation. They had repaired some 400 bridges. Roughly speaking, 25 per cent of our forces are in the fighting area and 75 per cent in the supply areas. This again is a reminder of the vast capacity of war to consume.

On Monday, November 27, we set out for one of the great supply bases—a Base Section as it is called. A Base Section is responsible for the evacuation and hospitalization of the wounded; for prisoners-of-war; for civil affairs in its area; for the repair, rehabilitation and maintenance of all roads, bridges and railroads; for provisioning troops; for salvage; for clothing the troops and for operating the post exchanges in the area. At this Base Section we were given some idea of what it takes to keep a fighting man equipped and fighting under conditions of maximum security.

Let's take the matter of communications. The chief signal officer must install, operate and maintain all signal communications and, in addition, supply all troops in the area with the necessary signal equipment. Each day the section handles about 7,000 pieces of correspondence and makes about 1,500 deliveries. Communication is by radio, teletype (to any place in the world), telephone, and courier. Whenever possible, local equipment is retained and used or salvaged. The entire headquarters telephone system was set up without using one piece of U. S. Army equipment.

Next there is the Chief Engineer. His section is responsible for construction of quarters for the troops. It has something like 12,000 miles of roads to take care of in cooperation with French authorities. It has charge of the railroads, although they are actually operated by the French. It runs the canals of the area and keeps them clear of obstruction. It maintains bridges and the one we visited had responsibility for two large prisoner-of-war camps.

The Job of Salvage

A huge construction program was in progress when we were there—in preparation for the winter which now has the Western Front in its cold grip. Great quantities of captured German engineering supplies were being used and French sawmills had been gotten into operation. The armed forces are doing a magnificent job of salvage. Battalions are trained to clean up the battlefields—to recover broken rifles, shoes, clothing, tents, mess kits—everything. These are then sent back in supply trucks to salvage depots where vast quantities of materials are recovered.

Shoes come in to this depot and are

This article is an abridgement of an address to the New York Railroad Club on February 15. Mr. Fraser visited the battle front in western Europe about two months ago, being one of a party of six industrialists who made the trip at the invitation of General Somervell.

sorted by sizes and condition, repaired and distributed to prisoners-of-war—who do the work. We saw piles of shoes high as a house. Leather belts are braided from the leather scrap salvaged from shoes beyond repair. Rubber from old tires is used to make soles for the shoes of prisoners. Clothing is washed, inspected, sorted, patched and, if it is good enough, reissued. Otherwise it goes to prisoners-of-war. There is also a depot of new equipment. The one we visited had 17 warehouses—with a separate warehouse for each different item. Materials come by train and truck from the ports and beaches.

General Patton's Precept

On Tuesday, November 28, we visited the headquarters of General George S. Patton, Commanding General of the Third Army. General Patton praised American equipment highly. He said:

"A recently captured German document paid me a compliment by saying that I used equipment to the maximum and men to the minimum. That is a precept of mine. If it saves American lives, it is a worthy one. We can use all the equipment you can manufacture. The sooner we get it the sooner we will be in Berlin."

We here have had ample experience with weather, but you must become mired in the mud of battlefields before you can truly sense the force of weather on the plans of armies, or see the great hole which weather makes in supplies.

General Patton told us that the Allied armies had met the worst rains in forty years. Just to give you an instance—the engineers with General Patton completed a bridge across a river, but by the time they got through, the approaches to the bridge for a mile were nearly five feet under water. Amphibious "Ducks" had to be used to bring up supplies to the bridge builders. Then the Germans got the range and blew up the bridge.

Miracles are performed at the fronts—miracles of repair, for one thing. If tanks are shot up but not burned out they can be repaired. Holes are weld-patched with steel plates and sometimes come out stronger than they were before. One M-4 medium tank took a hit from a German 88-mm. shell and had a dent four inches deep in its armor. The automotive repair men got to work, however, and eased out the dent, using heat. Then they put a one-inch plate over the dent on the inside of the tank, and a one-and-a-half-inch plate over the outside.

It was Thursday, November 30, at Namur in Belgium that we visited our first big railroad shop—a railway shop battalion under Lieutenant Colonel Miles G. Stevens. They can handle 50 to 60 locomotives at a time and repair them at a rate of 50 to 60 a month. It is said to be the biggest shop of its kind in Belgium. The work is done by Belgians assisted by men of the battalion. They are doing a fine job and have already repaired a large part of the damage done to the rolling stock left in Belgium by the retreating Germans.

In the Advance Section we also got a chance to see the communications system at work. The commanding officer called it "A glorified Western Union Office." Communications is a big job on the battle fronts. Fifteen hundred messages are handled by hand each day—traveling by truck, jeep, motorcycle or plane. Headquarters is principally a reception area so far as radio is concerned. Small transmitters "out in the hills," as they say, are continually sending in messages.

We went next to one of the great evacuation "holding" hospitals where the wounded are held no longer than a day—unless weather prevents their evacuation by air. This one had once been a zinc smelter. It was close by an air strip. Men are flown back to general hospitals. We stayed and watched a great many wounded boys loaded on DC-3 planes. We saw fifty DC-3 transport planes standing tip to tail. In four hours they took out 1,000 men. Within two hours those thousand men were in hospitals in England.

Bottomless Pit of War

Supplies, supplies, supplies—it is a never ending problem and a never silent cry. Near Liege, toward which General von Runstedt was later to reach out in a thwarted attempt to strike a telling blow at one of our great supply centers, we saw one of the great gasoline dumps. Railroad cars were bringing up the bulk of the supplies at the time we were there, but pipelines were being readied and two huge reserve tanks soon would be connected by pipeline with distant sources. The gasoline goes into thousand-gallon tank trucks and into the familiar five-gallon "Jerricans"—tens of thousands of them a day. Here again you get some sense of the bottomless pit of war—the vast sieve through which supplies flow—the greatness of the demand which matches the greatness of the supply.

If you had been with us you could have seen what happens to tires. At the vulcanization unit which we visited you would see tires with two and three holes—holes made by gunfire and also by sharp slivers of metal on the highways and roads. You can imagine what some of the roads are like after a battle had passed over them—a jagged mass of metal bits waiting to tear rubber to ribbons and puncture it with great gapping holes. We visited a great general hospital—a 25-acre tent city. We toured the wards and talked to the men. It is a tent hospital but it has all of the X-ray and surgical equipment which are required by one of the finest hospitals here at home.

We saw Aachen and here again you become aware of the force and effect and value of fire-power—the capacity of shells to destroy the enemy and all his works and thus to hold to a minimum the capacity of the enemy to kill and wound. The Germans fought tenaciously for Aachen and delayed our advance. But three hundred thousand 105-mm. shells were poured into Aachen and the Germans were driven out.

In this area we also saw our first 240-mm. howitzer in action. That's the biggest gun fired into Germany from the Western Front. It has a range of about 15 miles, hurls a projectile weighing about 360 lb. and needs from 65 to 88 lb. of powder for each shot—depending on the distance and the penetration. We talked to the gun crew and learned that the six guns of the battalion we were visiting shot some 12 to 15 rounds a day and some days did not fire at all because of ammunition shortages. Those six guns are capable of firing several hundred rounds a day.

Shortages should not necessarily be taken as evidence of failure on the home front. The matter of shells is a case in point. When the great invasion was planned and the blasting of the Siegfried Line worked out, the intention was to use aircraft tactically in place of guns, but the weather prevented. There were plenty of bombs but not enough shells. Our tour of Friday, December 1, ended at a railhead depot where some 15 to 20 cars of clothing and equipment are unloaded daily.

I feel that I should come back again to the choice which lies before us here at home. If you or I or any of us fall short by even a small amount of the production goal which has been set for us we may be writing the death warrant of one of our men. There will be supply failures over which we have no control. One hundred thousand shells may be poured into an enemy strong point instead of 300,000 simply because the shells could not be brought up to the guns. But let us resolve, each of us, that there will be no single shortage of supplies or equipment due to any factors over which we personally have the slightest control.

Alaska Cut-Off

(Continued from page 375)

the ventilating system for the longer tunnel alone would have cost about $300,000 it was decided to avoid this extra expense by using Diesel-electric locomotives for hauling trains over the line. Accordingly, two 1,000-hp. Alco-GE Diesel-electric road switchers were obtained for this purpose, which were placed in service between Whittier and Anchorage, a distance of 62.5 miles, the latter being a point on the railroad about 50 miles north of the junction at Portage.

As part of this project it was necessary to construct complete terminal facilities at Whittier where there was not even a village before. These include docks for accommodating three ships, engine servicing facilities, and a freight and passenger station. After the war it is expected that the terminal will be developed still further as required by the amount of business passing through it at that time.

Army Railroading Has Changed Since '17

French railroads were intact and fully manned in War I, while this time they had been damaged and their employees dispersed—but, this time, our Army was ready to go railroading

THE Army was far better prepared, this time, than in World War I to deal with the transportation problems which it faced on its arrival in France. In World War I the overnight plunge into war caught the country by surprise and found it without a strong, independent Army transportation service.

At the time the United States entered the conflict in April, 1917, the Quartermaster Corps was charged with the task of furnishing the necessary transportation for the movement of troops and supplies. In time of peace the Corps constructed roads, bridges, railways, docks and wharves for military purposes. The Engineer Corps also handled the construction of military roads, railroads and bridges. During the period of hostilities, within the theater of operations, the provision was that the Engineers should have charge of the location and construction of wharves, piers, landings, storehouses, hospitals, and the construction and operation of military railroads. An officer of the Engineer Corps was detailed as Director of Railways, directly answerable to the Commander of the Line of Communications.

Lesson of World War I

Thus, the functions of transportation were split between two branches of the Army. Although the two services did not actually interfere with each other or overlap, Army regulations provided that the Quartermaster Corps should attend to railroad transportation in time of peace, but, in time of actual or threatened hostilities, turn it over to the Corps of Engineers in the theater of operations. This anomalous situation brought to light many evils, among them lack of knowledge by the Corps of Engineers of the volume of supplies required to be moved by rail, and its unpreparedness in promptly building up and expanding an effective transportation service to operate the railways of France. The Quartermaster Corps, since it operated the transportation facilities only in time of peace, saw no reason why it should obligate itself to a strenuous training program on operation of railroad transportation in a theater of operations, which was to be taken over by the Engineers; and the latter was not given the opportunity, until hostilities threatened, of gaining knowledge in peace-time of what it was expected to accomplish in time of war.

The lesson learned early in the previous war by the British, whose problem was analogous to ours, that it was a mistake to divide the responsibilities for transportation among so many branches of the service, served to change the minds of the U. S. General Staff and laid the foundation for the first organization of the Service of Transportation on July 5, 1917. Provision was made for a Director General of Transportation.

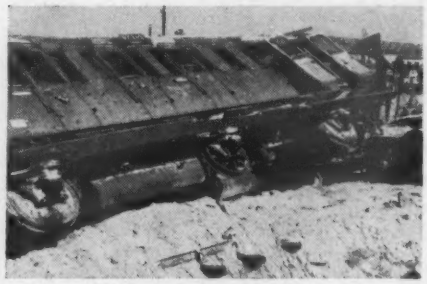


Photo by William A. Margolis

A German Passenger Coach Lies Wrecked in the Yards at Le Mans

The duties of the transportation service, under the Director General of Transportation, comprised the operation, maintenance, and construction of all railways and canals under American control, and construction and maintenance of roads and wharves, and of shops and other buildings for railway purposes. The service was also charged with liaison with French authorities to insure prompt service for United States goods and troops in transit over railways operated for us by the French.

Birth of the T. C.

The Railroad Transportation Corps came into being in September, 1917, with Brigadier General W. W. Atterbury, on leave from the vice-presidency of the Pennsylvania Railroad, as its head, and was officered by experienced railroad men who were given commissions from civil life. This was perhaps the most important step taken during the war to create a supply organization, which operated over rail and paved the way for the great railway transportation branch of the Army which is functioning so smoothly on the continent today. After much internal friction, and many reorganizations, the Transportation Service and its railway division emerged as a combined organization on November 12, 1918, one day after the signing of the Armistice.

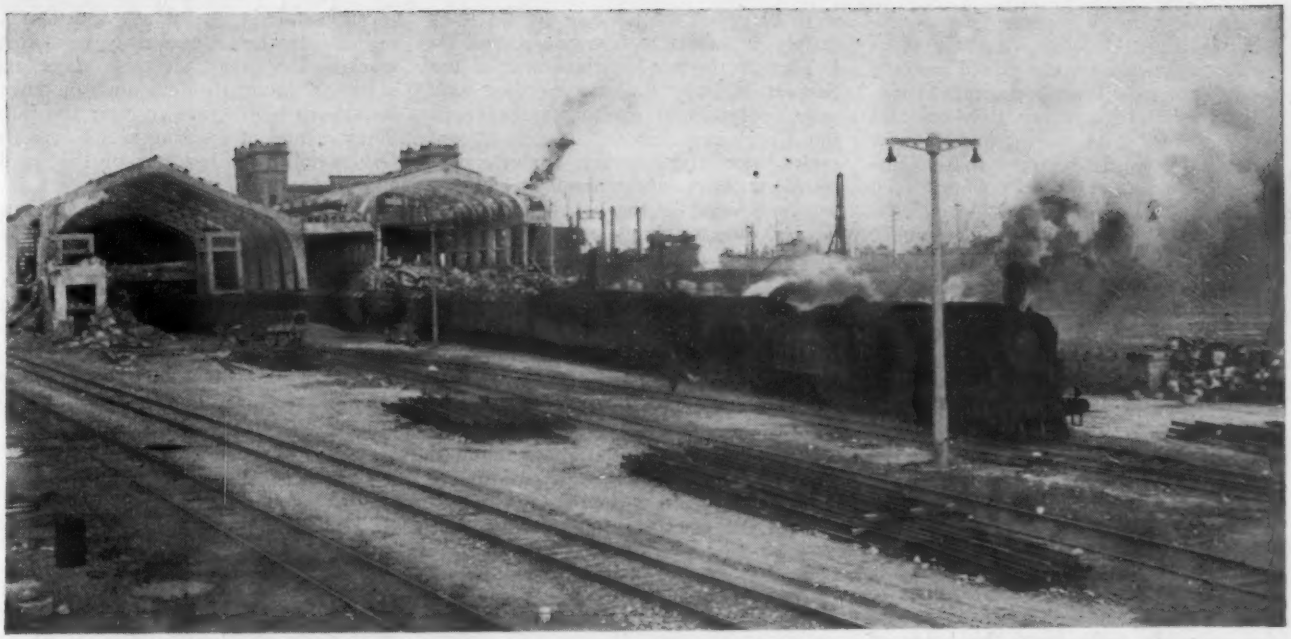
The Americans in the previous war were faced with many operating problems upon their arrival in France with which they were unable to cope due to the slow trickle of equipment, repair parts and men. The lines of communication were long and numerous. The British occupied all the Channel ports close to the combat zone, and the Americans were left no other choice but the Atlantic ports, further away and less adequately equipped. This forced them to maintain long lines of communication across France to the American front. Track materials for construction and maintenance of additional lines to handle American supplies were so depleted that many second main tracks had to be removed. The French railways had been denuded of their younger men by the call to arms, and the remaining ones were advanced in years and became very tired by the extra hours they had to work to meet the demands placed on the railways. Rolling stock had become depleted because of non-repair and the non-replacement of lost, damaged and retired equipment. The French railways as a whole were in excellent physical shape, but inadequate to handle the enormous amount of traffic for the accelerated troop program which, it was anticipated, would rise to 350,000 men per month.

The original plan of the American Army for the transportation of its troops and supplies called for operation of



A Railway Traffic Officer Takes Stock of a Shipment of Rations Before Loading Onto Freight Cars Headed for the Front

This article originated from official Army sources in the European Theater of Operations.



A Hospital Train Pulling Out of a Bomb-Damaged Station Somewhere in France

American trains, by American crews, under trackage rights over French rails between American controlled ports and terminals to the firing line. But nine months after we had entered the war we were without equipment, other than 30 locomotives that had arrived from the United States. The shop force was a single regiment which was used helping the French to repair cars and locomotives. The French railway crews were hauling our supplies over their already overtaxed lines with their own equipment. Lack of organization and the slow response at home to requests for railroad equipment and experienced men to handle it delayed the plan of full all-American operation of trains until the surrender of the enemy. Prior to this time railway operations were confined largely to helping the French in the problem of hauling our troops and supplies, followed thereafter by the gradual taking over, in part, by the Americans of train and yard service devoted exclusively to our uses, until the climax of the joint French and all-American movement was reached.

The Transportation Service set up a number of large shops throughout France for the repair and erection of its own equipment, but, due to lack of proper machinery and skilled mechanics, did not operate to capacity until late in the war. In the car shop at Nevers three cars were turned out on September 5, 1918, but the November total showed the output had risen to 675 cars. The shops also repaired French equipment, and at the signing of the Armistice 1,188 locomotives and 40,771 freight cars had been repaired by the Americans for the French.

With borrowed tools the car erectors started work on a huge car program late in March, 1918. By the end of April they had assembled 733 cars. In the month of July they had boosted the total to 1,524 cars and their machinery for greater production had not yet arrived from the United States. Despite the limited facilities and tools at hand, the Americans made a record which was the envy of other Allied transportation services and was a forerunner of things to come.

The situation on Armistice Day was not as planned. Of the 3,575 locomotives requisitioned from the States, only 962 were on French soil ready for use, with another 74 awaiting erection. The Belgians placed at the disposal of the Railway Service 344 locomotives in first-class condition and 81 to be erected. This placed at the command of the Americans a total of 1,461 locomotives. Freight car equipment of all kinds received from the United States and subject to use or awaiting erection, totaled 14,678. From England the Service received 182 flat cars and 41 tank cars. Spain came to the assistance of the American supply problem by providing 750 box cars. From Great Britain the Transportation Service also received 17 hospital trains of 16 cars each accommodating 400 men. The French furnished 2 hospital trains of 13 cars, each accommodating 400 men. This amount of equipment was but a small percentage of the original order which would have been necessary to accommodate the intended Army Expeditionary Force of 4,585,000 men, had the war continued.

The First R. T. O.'s

To handle the movement of American supplies a number of "railway traffic officers" were placed at ports and railheads, and at all important junctions and stations, replacement depots and coffee stops. These officers were the links between troop movement bureaus and troop commanders at points of origination and destination. Through the R. T. O.'s amiable contact was made between French and American officials, as well as Army representatives and the public in general. To the R. T. O. went American officers and men for information about a multitude of things—travel orders, tickets, railway time-tables, boat sailings, billeting, food and clothing, hot coffee service, regulations, directions to military units, detraining and entraining of troops, and many other things.

Old Railway Operating Branch

The Railway Operating Service, after many changes, finally became adapted to the French system of operation—a few days before the Armistice. The future was bright for an independent branch of the service and, had the war lasted much longer, the Railway Service would have been fully operating its own lines. On November 9, 1918, the high daily record was made of 342 French and American trains, operated either by full American crews or by mixed French and American crews, traveling a distance of 22,669 miles. The average daily number of American trains moved during the month of November, 1918, was 180, which did not include the French troop and supply trains, operated in our interest. On Armistice Day, the railway operating branch of the Transportation Service, covering 5,000 miles of railway with an average haul of 600 miles from ports and railheads, had handled or supervised the handling of the larger part of 1,918,125 troops, 3,960,062 tons of freight, and 37,610 animals that had arrived for the American Army since June, 1917.

The Military Railway Service and the Transportation Corps did not in the present war win its battle of independence and become completely segregated from other branches of the Service of Supply until July 31, 1942. On that

memorable date the former Transportation Service was abolished and all transportation functions were placed under a newly created Transportation Corps, which embraced military railways and their operation. Construction of new railroad lines was retained in the Engineer Corps. This important step opened the way for expansion of the Military Railway Service and a number of "grand divisions," and shop and operating battalions were organized in the United States—sponsored, officered, and to a large degree trained by individual railroads. Unlike the situation which faced the Army in the first war, troops were this time to be transported and supplied by an organization which was rich in experience. Railroads in the first great war were reluctant to release their experienced men, but such was not the case when the United States Army called upon them for aid in the present conflict. In this war the railroaders from the United States were going to land on European soil prepared to run the railroads right from the holds of the ships to the muzzles of the guns.

England the First Step

Prior to D-Day thousands of railway operating and shop battalion personnel converged upon the United Kingdom to initiate the first step in the forming of a well-balanced Army railway service, capable of overcoming any obstacle which might block their railway supply lines to the armies in the field. The units were manned with men who had had practical experience in the jobs they were going to do.

Training for the operation of French railroads entered the second phase when the Americans set foot on English soil. Going into the English shops the GI railroaders soon amassed records of production and assembly which astounded the British. Prefabricated cars rolled off the assembly lines in unheard of numbers and American locomotives were conditioned and soon running over English rails hauling supplies and troops to the ports and marshalling areas. The wheels of invasion were starting to roll and the great American railroad transportation organization which was soon to operate on French soil was building up fast.

Eleven days after the Allies had stormed ashore on the beaches of Normandy and swept over the Channel fortress of the Germans, a small reconnaissance party of the Second Military Railway Service, of which Brigadier General Clarence L. Burpee, Jacksonville, Florida, was commander, set foot on the shell-torn strand. Firing was still very heavy and bombing and strafing raids frequent. The tiny band was armed only with light weapons and a handful of ammunition, and a jeep equipped with demountable flanged railroad wheels. The party had one specific assignment—analyzing the railroad facilities on the beachhead, estimating damage to rails and yards and locating all available locomotive power. Lines were surveyed all the way up the Normandy peninsula to Cherbourg, and on D plus 26 the headquarters unit of the Second Military Railway Service took over operation of existing trackage in the Cherbourg yards. French engine crews helped the Americans move equipment and cars, and volunteer railroad workers aided in the repair of roundhouses, shop buildings, engines and rolling stock.

Operating French Railways

Under supervision of the Railway Service, Engineer Corps troops worked energetically to repair the railway line from Cherbourg to Carentan. The 729th Railway Operating Battalion followed close on the heels of the advanced party and relieved them of the burden of operation of the Cherbourg terminals. The first passenger train was operated by personnel of the 729th and pulled out of Cherbourg for Carentan sixteen days after the official capture of the great Channel port. Things were not easy for the GI trainmen during their first operating experience under fire, but there was so much to do to keep supplies rolling they had little time to worry about nightly bombing and strafing attacks by the Jerries. Much of the train operation was done at night over tracks hastily reconstructed by the Engineer Corps, working in close co-operation with the Railway Service. The 728th Railway Operating Battalion and the 757th Railway Shop Battalion, together with the 707th Railway Grand Division, arrived in France shortly after the 729th to form the nucleus of the force of 17,000 officers and enlisted men now serving in railway units on the Continent.

Numerous problems faced the Americans when they took over the French National Railway System. Unlike the first great war when the French hauled our supplies for over a year and a half after we had entered the conflict, the Army was well prepared to handle its own supply trains and traffic. But the problem of an adequate system of railway lines from the supply dumps and ports to the front lines was of the greatest importance. All yards were so badly damaged that they appeared to be hopelessly beyond repair. Long stretches of roadway had been ripped and torn by aerial bombardment, mines and demolitions. Maintenance of way companies worked for many sleepless days and nights, without an abundance of power equipment with which to clear the rails. With the aid of the Engineer Corps the GI trackmen moved out of the yards everything that could roll.



A French and American Railroader at Work in a Locomotive Repair Depot

This situation was prevalent right up to the gates of Paris, but beyond the French capital rail facilities had been spared the death blows of both the Germans and the Allies. The drive gained momentum and the railway units were kept continually on the move to keep pace with the armies they were to supply. Maintenance of way crews and operating crews lived on trains and made repairs from well-equipped shops on wheels. The railroads of France are a spider-web of innumerable routes about which plans had to be made showing the shortest and best through routes and those requiring the least amount of repair. But when the drive started moving swiftly, operating crews called upon their own nerve and intuition to get their trains through.

More Equipment This Time

An abundance of equipment, so lacking in the last war, was at the command of the Americans. The Germans had removed much of the first-class power and rolling stock to other countries as they furthered their occupation of Europe. But, in turn, they also had brought into France much fine equipment to bolster the over-worked French power. Much of this was left behind and is being used by the Allies. French power which had been shot up was quickly repaired by shop battalions. Many ancient locomotives were found in the yards and put to work. A number of American locomotives given the French during the first world war were also drafted into service. By the middle of December the Military Railways had many American steam and Diesel locomotives available for use in France, and many cars of all types. Also operated by the American railroaders are 12 mobile workshops, 17 twenty-ton Brownhoist cranes, 22 wrecking trains, 7 wrecking cranes, two 25-ton locomotive cranes and 31 hospital trains. Captured equipment which included that of French, German, Austrian, Belgian and Italian origin, repaired and placed into service, totaled 402 locomotives and 29,200 cars of various types.

French railroad personnel presented somewhat of a problem to the Allies. Twenty-eight years ago it was the American soldier who had to depend upon his French buddy to move the trains, but now the student was the teacher. Returning French railway employees were utilized as nearly as possible in their former railroad positions. In most cases they were very helpful and soon adapted themselves to the methods of the Americans in clearing yards and right-of-ways. In early operations American crews manned all trains, but the French worked alongside their liberators giving all possible aid

as interpreters, engineers, firemen, switchmen, flagmen and conductors. A majority of the shops and railway lines in France are operating with full French personnel repairing and assembling equipment for their American allies.

An important holdover from the initial railway service of the 1917-1919 war period is the "railway traffic officer." Trained on the railways of England prior to the invasion of the Continent, the R. T. O. has performed the same commendable service in the present war as he did in the last. Placed at stations, junctions, ports and on the highways the R. T. O. controls the flow of traffic to and from the front lines. He directs troops as well as civilians to their destination and handles a thousand and one problems which confront him each day. He is the Transportation Corps' ambassador of goodwill.

The "Underground"

The French railways normally operate over a total of 26,417 miles and were formerly owned and operated by seven great systems, two of which were state-owned. On January 1, 1938, all lines were merged into one French National Railway System, the Societe Nationale des Chemins de Fer Francais. In pre-war days, through trains were operated from France to Belgium, Holland, Germany, Poland, Austria, Hungary, Roumania, Yugoslavia, Bulgaria, Greece, Italy, Spain and Portugal. Through such a network the Germans were able to draw supplies from their Axis partners, as well as from occupied countries, which gave them a decided advantage in the early years of the war.

The Germans, however, soon lost their initial advantage. For one thing, they moved French operating crews from territory familiar to them into territory completely foreign. This placed a hardship on employees because their ration tickets were good only in their particular city or town and they were not allowed to purchase food in other sections. As a result, the crews lived almost entirely on rations which they carried with them when they left their home stations. Very shortly their efficiency was cut down by hunger.

The French "Underground" stabbed into the German transportation system through highly trained sabotage squads. Activities of the saboteurs, in the beginning, were limited because of the strict surveillance of Nazi patrols. Sand made its appearance in lubricating oils and greases, which in turn found their way into pistons and valves of locomotives and the journals, brakes and axles of engines and cars. Debris in the form of scraps of metal, pieces of wood and many other articles were found in the boilers and fire-boxes of locomotives, causing much damage and resulting in putting equipment out of service pending repairs.

The "Underground" did not limit its activities to equipment destruction alone, but mined and blasted small bridges and tunnels. Fortunately, neither the Germans nor the French did any material damage to the larger structures, but U. S. Army bombers knocked-out the large railway bridge at Orleans, creating a tie-up at that important southern junction point. French workers subsequently rebuilt the bridge using American materials and equipment and trucks loaned them by the Transportation Corps.

The German plan for movement of troops was in formations of divisions, which required considerable rolling stock. When these formations pulled up on a siding French saboteurs would blast ahead and to the rear of the trains, isolating the troops. This activity not only delayed German reinforcements, but saved much valuable railway equipment for future Allied use.

At the mian-line station of Vire, in the early days of the drive to Paris, several trains loaded with German troops were tied up in the yards. The U. S. Army Air Force had the railway center on schedule for pin-point bombing—bombs were to be dropped in front of and to the rear of the trains, blasting the track and disrupting any movement. But the French stationmaster knew there was an ammunition train on another siding directly next to the troop train. He got word through to the Americans. The bombers scored direct hits on the ammunition train. 1500 Germans were killed. The action also caused much damage to station buildings, but prevented the movement by the Germans of any of the rolling stock from the yards.

French Cooperation

After occupation by the Americans, French railway gangs emerged from hiding, to which they fled during the opening invasion battles, and enthusiastically co-operated with American Engineers and railway battalions in clearing wreckage from yards and right-of-ways. Many of them were weak from hunger. Army authorities shortly set their machinery in motion and furnished these employees with substantial food. French crews are now eating in GI mess-halls and sharing K-rations with GI crews while working on the line.

French refugees returning to their homes were allowed to travel the trains free of charge, upon presentation of an order from local police officials. By hauling civilians over the lines, the highways were kept clear of civilian traffic, which gave the Transportation Corps truck companies top priority and a clear line of supply to the front. The Cherbourg Division is still operating under "Phase One"—total military control.

Railway lines stretching beyond Paris to the front are mostly operating in "Phase Two," which is a joint working agreement between Second Military Railway Service and the National Railways of France. A French civilian crew runs the train, but under a GI pilot who takes his orders from a GI dispatcher. The civilian crews are rendering their American buddies a great service in this territory where the need of ammunition and supplies is urgent.



2nd M. R. S. Staff Officers

(Left to right)—Col. W. T. Elmes, asst. gen'l mgr., engineering (formerly with N. Y. C.); Col. F. L. King, asst. gen'l mgr., equipment (C. M. St. P. & P.); Col. S. H. Bingham, asst. gen'l mgr., stores (New York Subway); Brig. Gen. C. L. Burpee, gen'l mgr. (A. C. L.); Col. E. H. Qualls, exec. off. (I. C. C.); Col. G. J. Mulick, asst. gen'l mgr., operations (U. P.)

Operations on the Brittany Peninsula progressed so rapidly that the French were soon operating all lines, yards and shops. The same situation prevails at Le Havre. French crews are also hauling supplies for our Armies over British-controlled railways in France. There are now hundreds of miles of single and double track operated by the French in "Phase Three." Under this plan, lines are wholly operated by the French, but with military trains given top priority.

Wounded American soldiers will always owe a debt of gratitude to the French railroaders. They have teamed with GI crews to establish a fast and comfortable route to Cherbourg where the wounded are placed on hospital ships for transfer to England and the United States. From Paris to Versailles the trains are handled by Americans, then French crews tie on their power and take over the long run from Versailles to Folligny, with American crews again taking over for the home-stretch run to Cherbourg.

Repairing Cherbourg Turntables

Without the aid received from native interpreters it would have been very difficult for the Americans to operate the railroads. In the beginning of United States Army control, many obstacles other than bomb damage and wreckage had to be overcome. The French signal system was entirely different from that of American railroads, and most of the signals had been knocked out. Crews operated almost entirely on their own initiative, taking many chances, running blacked-out trains over lines completely foreign to them.

Orders written in French were unintelligible to the GIs, so interpreters were placed in stations along the lines to work alongside American R. T. O.'s. Interpreters are also working as liaison men between the National Railways and the Second Military Railway Service. The close co-operation between the French railroaders and the Americans has done much to create a spirit of goodwill be-

(Continued on page 388)

Wheels for Post-War Railroad Service

Steel wheel characteristics adapted to various classes of service—Designs standardized—Road test plant suggested

By C. T. RIPLEY

Chief Engineer, Technical Board, Wrought Steel Wheel Industry, Chicago

EXPERIENCED railroad men know the importance of wheel and axle work in railroad operation from the safety viewpoint. The wheel and the axle are the most important parts of a car or locomotive for their failure can cause the most serious type of wrecks due to equipment defects. Because of this fact both the manufacturers and users must continually strive for improvements to cut down the chance of such occurrences even though the present performance record is remarkably good.

Wheel and axle work is also important from the cost viewpoint. Anyone who handles interchange billing realizes how large a percentage of the bills involve wheel charges. In order to arrive at an approximate figure for the cost of wheels and wheel-shop work, I have analyzed the expenses on one large railway system and developed the following data. These figures, shown in the table, are not exact, but are fairly representative of the total annual costs for all types of wheels for freight cars, passenger cars and locomotives (excluding tires).

Total Annual Cost of Wheels and Wheel-Shop Work on One Large Railway

Cost of wheels for locomotives*	$210,000
Cost of wheels for passenger cars	115,000
Cost of wheels for freight cars	1,275,000
Cost of wheel-shop work	510,000
Total	$2,110,000

* Excluding tires.

In the case of the freight-car wheels, the cost represents about 12 per cent of the total maintenance charges. It is realized that these costs will vary on different railroads, but if we apply the results of this estimate proportionately to the total car and locomotive ownership of American railroads we arrive at a total estimated cost for all railroads of about $60,000,000.

In these days when we are beginning to see hope of an early end of the war, it is perhaps proper that we particularly emphasize and examine the performance requirements involved in wheel service in post-war railroading. Competition will obviously require fast movement of both goods and passengers and thus, basically, the post-war wheel problem is to provide types of wheels which will safely meet high-speed operating conditions at a minimum expense.

Intensive research work is being carried on by the wrought-steel wheel industry. I may mention that each of the manufacturing companies has large, well-equipped, well-staffed laboratories which are continually studying the subject, particularly from the metallurgical viewpoint, all the way from the open-hearth practice to the finished product. One of the wheel manufacturers has a brake-shoe-testing machine for physical testing of the finished product. The industry as a whole has for the last four years been making continuous use of the University of Illinois Testing Laboratory in which all type of wrought-steel wheels are being tested. A careful study is being made of many features of wheel composition and design.

The particular subjects which have been and are being given intensive study, are: (1) The chemical composition of the steel to provide wheels with maximum wearing characteristics, maximum resistance to shelling, and maximum resistance to thermal cracking or breakage of the wheel; (2) the design of the wheel as regards thickness of rim, thickness of plate, thickness of hub, location and slope of plate, type of fillets, etc.; (3) residual stresses and stresses built up in service; (4) methods of heat treatment.

As information is gathered on these subjects, it is immediately made use of in the producing plants and I can, without reservation, say that there has been a steady improvement in the product during the last ten years. The A. A. R. recently compiled data from a questionnaire to 15 major railroads showing steel-wheel failures during the last five years. I am not free to give the details of this study, but it shows a remarkably good performance record with few failures, particularly when the fact is considered that the last few years have been a period of the most intensive equipment service in the history of railroading.

Alloy-Steel Wheels

As an example of the results of this questionnaire, I might mention that it shows only nine cases of failures of one-wear wrought-steel wheels in the last five years in spite of the fact that there are about 3,000,000 such wheels in service on these railroads and seven of these were wheels made in the 1927 to 1929 period, when this type of wheel was a new product and there was no controlled cooling practice such as has existed since 1935.

The question is often asked why alloy steels are not used in wheels in order to improve the physical properties. Many laboratory tests and some road tests have been made of alloy-steel wheels and further studies of various alloys are still being made. In general, however, two disadvantages of this type of wheel have prevented their general usage: (1) The introduction of alloying elements, such as molybdenum, nickel, silicon, etc., have all appeared to increase the thermal touchiness of the steel in the same way as does high percentage of carbon and thus alloy-steel wheels have proved more liable to thermal cracking; (2) alloy-steel wheels cost more than do heat-treated carbon-steel wheels. Inasmuch as heat-treated carbon-steel wheels of types already developed appear to meet present operating conditions and will, we believe, meet post-war conditions, this extra cost does not appear to be warranted.

Locomotive Service

In connection with locomotives we must deal with both the steam locomotive and the Diesel-electric type. Wheel service on Diesel locomotives has been generally satisfactory but on the high-speed passenger type, where the wheels are only 36 in. in diameter, there is a delicate balance between the shelling problem and the thermal cracking problem. Ordinarily Diesel locomotives are braked heavier than steam locomotives due to the fact that tires on the driving wheels of steam locomotives have to be protected from too much heat to avoid loosening of tires, which is not the case on Diesels. The loads are rather high, particularly for this small wheel, and thus if the physical properties of the wheel steel are not sufficiently high, shelling trouble may develop.

On the other hand, if a too-high-carbon wheel is used, thermal checking may develop. It has been found that the Type *B* wheel, with carbon content around 0.62, will satisfactorily meet this service condition unless in the operation of the locomotives an unusual part of the braking is done by the locomotive. Sometimes when these locomotives are first put in service the enginemen are not fully familiar with them and the division of braking effort between the locomotive and the train is not properly handled. Thus, thermal cracks may occasionally occur. In freight Diesels, regenerative braking is often used and thus wheel punishment by heating is lessened. Type *B* wheels are meeting this service condition but some experiments may be made with Type *C*, though we are not ready to recommend this.

This article is an abstract of a paper presented before the December 11, 1944, meeting of the Car Foremen's Association of Chicago.

In the case of the Diesel switchers, the important problem is flange wear since these locomotives operate on sharp curvature and in many cases have rather severe lateral restrictions. Occasional turning around is helpful in equalizing flange wear. Originally most of these locomotives used flanged brake shoes and these produced trouble with thermal cracks in the flanges. It is now becoming standard practice to use a special shoe with only the ends contacting the flange. This has overcome most of the trouble. However, these switchers are at times used in transfer or other service where they are subject to heavy braking and therefore Type *B* wheels are commonly used.

In the case of steam locomotives, the general tendency is to use larger and heavier types. A mistake was made in some of these new designs by not providing bigger diameter or more wheels in the engine trucks and tender trucks to carry the added weight. As the loads increased, the physical limitations of the wheel steel were reached and shelling trouble, which is nothing but fatigue failure, occurred. While this is not a dangerous defect, it is an expensive one as it causes a large amount of valuable metal to be turned off the treads. In most of the more recent locomotive designs, larger diameter wheels, 40 in. and 42 in., are commonly used in the trucks and a larger number of bigger wheels under the tenders.

It is now common practice to use either eight-wheel trucks under large tenders or else the special design of the General Steel Castings Company with individual pairs of wheels in pedestals. In these designs the shelling problem has been overcome where the proper type wheel is used. The only new problem involved in the post-war period with steam locomotives is that where these heavy locomotives are handling lightweight trains, more locomotive braking power is needed. Thus, various devices are being used, such as retainers on tender brakes and higher brake ratios.

Passenger-Car Service

In the future, load-compensating brake devices may be added. These will introduce the possibility of thermal cracking and there have already been some cases where it has been necessary to use the Type *B* wheel instead of the Type *C*. With the lighter loads per wheel involved, this appears practical and the best answer in such cases. In general, post-war locomotive service does not involve any problems which cannot be satisfactorily met by present types of steel wheels.

The general type of post-war passenger car was pretty well established shortly before the war. While many refinements will be introduced, their general design characteristics will probably be the same. While the maximum speeds will probably not be much higher, improvements in roadway will probably permit more sustained high speed and braking will be intensified. Fortunately wheel loading is not particularly high in these cars and thus the shelling problem is not an important one. The Type *B* wheel is meeting most service requirements and should continue to do so in this future operation, though in some cases it may be desirable to use the Type *A* if the braking is particularly severe.

The brake manufacturers have many improvements in view to provide more uniform braking and shorter stoppin distances. The disc type brake makes wheel service, so far as thermal effects are concerned, less severe. Other new types, such as the speed governor control, mean that more heat must be absorbed by the wheel but they conserve wheel metal by reduction of slid flats and provide better braking. Designers of cars are striving for lighter weights from every possible source. Consideration should therefore be given to the possibility of lightening the weight of wheels for such service. This may be possible through use of thinner rims, lighter plate and smaller hubs.

Balancing Wheels

A question which is interesting passenger-car designers is the possible need for balancing wheels. It is well known that balancing of automobile wheels is a necessity for high-speed operation. Whether it is needed for high-speed passenger-car wheels is not definitely known. The manufacturers of automobile balancing equipment have now developed a special machine which can be used for balancing mounted pairs of wheels and one such machine has been installed on the Illinois Central. It is hoped that some operating tests will be made to indicate how much effect proper balancing has in improving the riding quality of passenger cars at high speed. It is possible by rather expensive machining methods to balance the individual wheels before mounting but this still leaves the possibility of lack of true balance because of eccentricity in mounting. There are not enough facts available to indicate how far these practices will be needed in post-war operation, but it is an interesting subject for further investigation.

Some car designers have suggested the possibility of using wheels with rubber inserts in the plate section in order to cut down noise within the car. Rubber-insert wheels are being produced by the steel-wheel industry in large numbers for use in new type street-railway cars and are giving successful service. It must be remembered, however, that this service is very different from that in standard railway cars. There is no heat effect from brake shoes to damage the rubber inserts and the low speed and light loading do not produce high stresses. The rubber-insert wheel is an expensive wheel to manufacture and it appears much more feasible and practical to introduce the sound-deadening rubber either in the springs or in pads.

Low-carbon heat-treated wheels are proving satisfactory under present-day streamliner cars. Post-war passenger-car service will require the use of this type of wheel. The untreated higher-carbon wheel is not suitable to meet the exacting requirements of such service.

Freight-Car Service

Opinions differ as to the type of freight car which will be needed for the post-war period, but there appears to be general agreement that freight service will have to be speeded up and that lighter weight cars are a necessity. Whether all of the cars will be built for this higher-speed service is open to argument, but it appears probable that a large number, particularly box cars, will be built with high-speed trucks to operate at speeds comparable with passenger-car speeds of the last decade. Higher speeds mean more severe braking conditions. Thus the post-war freight-car wheel must be light in weight and able to withstand severe braking.

A good demonstration of this type of service has been made during the last few years with the so-called high-speed merchandise cars. These cars are equipped with special types of trucks and are commonly operated in passenger trains at high speeds to carry express and baggage. The wheels used under these cars are standard one-wear freight-car wheels. In spite of the severe service these wheels have made a remarkable performance record which is good evidence of their ability to meet the requirements of post-war service.

Experience during the last few years has shown that wheel changes are an important factor in delay to cars. This showed up particularly in the case of tank cars which were so urgently needed for war-time movement of petroleum products. . This must be considered also in the post-war period, as delays to cars due to wheel changes or any other cause mean poorer service to the shipper and less intensive use of the investment in new cars. Therefore the post-war freight-car wheel should be designed to last practically the life of the car, unless slid flat, and not be subject to defects which cause frequent removal.

Experience with one-wear steel wheels shows that they meet this requirement. Carefully conducted tests have shown their average service life under 40-ton cars to be about 300,000 miles and under 50-ton cars about 250,000 miles. These tests were made with the old design which had a light flange. One-wear wheels made since 1935 have reinforced flanges which make it possible to reclaim them after reaching condemning limits by turning to multiple-wear flange contour. This is now recognized in A. A. R. rules and we can conservatively expect a 33 per cent increase in the average service life of these wheels as compared to the figures just given.

While the steel-wheel industry intends continually to develop improvements in all these types of wheels, it appears that it is already well prepared to meet post-war demands. However, it must be rec-

ognized that any type of wheel cannot be used in any type of service. Judgment must be used in the selection of the types best suited to the service. This has been recognized by the A. A. R. in its specifications for heat treated wheels which divide such wheels into three classifications: Class *A*, a low-carbon wheel for use with severe braking conditions, but with light loads; Class *B* with medium carbon content for use with severe braking conditions and heavier wheel loads; Class *C* with high carbon content for use with high wheel loads and moderate braking conditions. These three new classes are in addition to the ordinary un-heat-treated wheels covered in the old specifications. (Mr. Ripley at this point discussed details of wheel shop practice.—Editor)

I have been engaged in testing of railroad materials and devices in one way or another nearly all my working life. Accelerated tests in laboratories have their drawbacks because there is always some question as to whether service conditions are actually reproduced. On the other hand, road tests have their drawbacks because of difficulty in keeping records and the interference caused by operating conditions and requirements. I have felt for many years that it would be a great thing if the A. A. R. had a section of railroad for testing purposes only. If about 30 miles of track could be built in the form of a circle or a figure eight loop, equipped with necessary instruments, laboratories, etc., it would be possible to make accelerated tests of important railroad materials, such as rail fastenings, ties, ballast, trucks, wheels, axles, brake shoes, etc.

These various tests could all be going on at the same time. There would be no question as to imitation of service conditions and there would be no interferences due to operation requirements. Such a plant would probably cost at least a million dollars and its operation about a quarter of a million dollars a year. This cost would not be excessive in view of the benefits to be secured. If the often duplicated costs in many individual laboratories and road tests could be reduced by this central testing plant, the information from which would be available to all railroads, there would prabably be a saving over present practice.

One by-product of this war period which has been a definite advantage to both wheel makers and users has been the standardization of designs of wrought-steel wheels. Formerly, there were about 450 designs of steel wheels for all classes of service. This was reduced to 34 standard designs and 24 standards for use only on existing equipment and which will be unnecessary on equipment built in the future. There are also a considerable number of designs necessary for use with A. S. F. roller-bearing units which were not originally designed for use in wrought-steel wheels. Most of these will probably become unnecessary before many years. Storekeepers, as well as shop foremen, will recognize the advantage in reduction of stocks of wheels by this standardization. Correspondence has also been cut down in the ordering of wheels.

I sincerely hope that after the limitation orders of the government are removed, the railroads will not fall back into the old practice of paying little or no attention to standardization. There will, of course, be times when some new standards will be necessary; no one desires to block progress. These should not be governed by the whim or fancy of some individual engineer, but should be reviewed by the able committees of the A. A. R. and either found necessary or unnecessary. I appeal to you as railroadmen in your own best interests to do whatever you can to hold to reasonable standardization of wheel design. (Mr. Ripley here presented a number of large charts illustrating standard taper versus cylindrical tread contour, reclamation of one-wear wheels, spacing of wheels for various services, new rail and wheel contour, etc.—Editor)

New Deal Plans to Alter Economy

Super-highways, T. V. A.'s and other socialistic ventures may force business to seek federal financing

By WALTER CHAMBLIN, JR.

THE theme for this year and for the next three years, will be "a job for every man and woman who wants to work." The total jobs, as you know, have been placed at 60,000,000. Of that total, industry is expected to furnish about 22,000,000, or a little more than one-third. The other jobs will come from these sources:

First, a public roads construction program; *second,* a series of at least seven T. V. A. projects; *third,* federal housing projects; *fourth,* retention of men in the armed services; *fifth,* special service training for youth; *sixth,* continued employment by the federal government of approximately 4,000,000; *seventh,* farm employment; and *eighth,* public works. This will be the equalizing factor used if and when needed to take up the slack, not provided by the other seven.

The program is "based upon the principle of free enterprise." The administration theory is that free enterprise will be given every opportunity and encouragement; but if and when free enterprise fails to provide the necessary jobs, government will step in and supplement that effort.

Let us go back and recapitulate, for this is the program which will be thrown in behind the free enterprise system. Here it is: *Industry,* 22,000,000 jobs; *public roads,* 5,000,000 jobs; *T. V. A.'s,* 9,000,000 jobs; *housing,* 2,000,000 jobs; *armed services,* 5,000,000 jobs; *youth training,* 2,000,000 jobs; *federal employees,* 4,000,000 jobs; *agriculture,* 11,000,000 jobs. *Total* 60,000,000 jobs.

There is the blueprint. It will be motivated by deficit financing if more of that is needed. This is the Alvin Hansen* philosophy, which is that you create wealth by going in debt, and that no nation ever went broke by borrowing from itself. The Hansen group, in fact, does not refer to this policy as creating debts; they regard it as an investment.

Neither do the followers of Mr. Hansen have any worry over the contention that the fallacy of the plan lies in the fact that it may make the federal government the largest employer, and thus places the capitalistic system on a precipice from which it could easily topple into state socialism.

8-Point Job Program

The New Deal thinking is entirely different. It is to the effect that society has become complex, and that the future relationship between government and business must be somewhat on the order of a partnership. The New Dealers feel that only by such an arrangement can the free enterprise system be preserved. This is the thinking of the men who plan New Deal policy, and this policy sooner or later will be given practical application. So let us examine the eight-point job program and see what it holds for the future.

First, what does it mean for business and industry? The figure of 22,000,000, being used by the New Deal planners, would be about 5,000,000 more than the present war-time employment. That is quite an order in itself. Of course, resumption of the retail trades, sales services, filling stations and the like will absorb quite a few million, but not enough to reach the goal.

Thus, No. 1 on the program is a shorter work week to spread the work.

This article is taken practically verbatim from an address by Mr. Chamblin to the Tax Foundation, meeting in New York on December 5. The speaker, a newspaper man of prominence and long experience, is now manager of the Washington office of the National Association of Manufacturers. Events subsequent to the address—especially the naming of Henry Wallace as Commerce secretary and the "Full Employment" bill, discussed editorially in the February 10 *Railway Age*—substantiate the essential accuracy of Mr. Chamblin's startling disclosures.

* Harvard economics professor, the New Deal's chief reliance for economic counsel, and America's leading exponent of the maverick theories of getting rich by spending beyond income, originally propounded by Lord Keynes in England.

A 30-hour week is now being proposed. But this shorter work week does not contemplate wage cuts; the "take home" wage is to remain at its present level. The theory here is that this will provide greater purchasing power to buy the products of an expanded industry.

Also a part of this phase of the program is a plan to raise the minimum wage from 40 to 65 cents an hour. Then, to further stabilize purchasing power, is the plan to establish minimum annual wages for each industry.

Closely aligned with this is the proposal to keep prices at or below 1942 levels, so that the people will be able to buy the expanded industrial output. This raises the natural question of how industry will pay higher wages and sell at lower prices. First, expanded production, more efficient machines, and more efficient methods are expected to reduce the cost per article. Better distribution likewise is supposed to aid in that direction.

Subsidies Will Be Needed

Now, if this does not enable a fair profit to be made, which a government agency will determine, government will step in with a subsidy to the business affected. The word "subsidy" will not be used in official circles, as a gift to business will be termed a "cost differential."

While it is not being talked of publicly as yet, this program would require the establishment of O. P. A. as a permanent agency; and, in order to operate effectively, O. P. A. eventually would take over the control and allocation powers now held by W. P. B.

By this concentration of power in O. P. A., the New Deal planners believe that it would be possible to embark upon a program of what they call "controlled inflation." Now, controlled inflation means this: Wages can be increased without increasing prices, simply by increasing the subsidy to the particular business affected. The same can be done with the farm income. The principle of the plan already has been established in the allotment checks which have been given the farmers by the Agricultural Adjustment Administration. Other factors entering into this controlled inflation program, which can also be described as a "controlled economy" program, include such things as these:

First, a permanent Fair Employment Practices Commission. Legislation to carry this out already has been favorably reported by committees in both the House and the Senate.

Second, a national White-Collar Commission. A bill to create such an agency will be introduced in the next Congress. The Commission would set up regional offices. It would determine who constituted white-collar workers and what their salaries should be, and then would act as arbitrator in any labor dispute arising in the white-collar group.

Third, a National Production Council. This is Phil Murray's idea. It can be briefly described as a peace-time W. P. B. It would be composed of representatives of industry, labor, and the public, with farm representatives sitting in when agricultural problems arose.

Fourth, the new Congress will be asked to pass legislation to establish a national health and safety law. This would prescribe minimum standards covering conditions of employment. This act would supersede all state laws and regulations, applying to those concerns engaged in interstate commerce which come under the Wages and Hours Law interpretation of interstate commerce, which is almost all-embracing.

Fifth, federal industrial financing. This would provide for direct government loans to business, or for government-insured loans by private financial institutions. In other words, this is a government stimulant to venture capital. Legislation to this effect also will be presented after January.

And *sixth,* there will be extension of the Social Security Act.

Such is the program for making more jobs in industry.

Now to *the second job-making proposal: public roads.* The House and the Senate already have passed a bill to set up machinery which will result in $3 billion being available for highway construction. This legislation would provide for a federal appropriation of $1½ billion, to be matched by an equal sum by the states. The money would be expended over a three-year period at the rate of a billion dollars a year. Construction would be started as soon as the war is over.

Let us turn to the T. V. A.'s. Seven projects are contemplated. They are the Missouri, Arkansas, Columbia, Mississippi, Connecticut, and Cumberland river valleys, and a group of streams flowing into the Gulf of Mexico. The cost of the program is unknown. Guesses are not much good.

The statement has been made in the Senate that carrying out the Missouri project alone would cost upwards of $11 billion. You can figure out the rest for yourselves.

Uplifting the Natives

These projects would be constructed by specially established authorities such as the one in the case of T. V. A. Now, this program is more than just the construction of powerhouses and dams. It means the making over of vast sections of the nation, including the uprooting of homes and possibly of towns, and a general reshifting of many of the population. There is no question that this, too, would make jobs.

Now to housing: Here the amount to be spent rests considerably with future developments. Potential housing projects have been put on paper by the planners in Washington. They themselves admit that no part of the country has been overlooked. How fast their plans will take shape depends largely upon how other phases of the job development program work out. The greater the need for jobs, the greater the speed of construction.

The minimum estimate of jobs is placed at 2,000,000. This is based upon the assumption that considerable prefabricated material will be used. The A. F. L., however, is bitterly opposed to the use of any pre-fabricated material, and is insisting that the carpenter with his hammer and his saw be the means of construction. If the A. F. L. viewpoint prevails, employment might be stepped up from 2,000,000 to 6,000,000 in this category.

Political Bosses Like It

But don't overlook the fact that these housing projects mean the condemnation of huge areas of existing city blocks. The condenmnation will be made by government boards, and the appraisal figure will be set by government boards. Very little thought, probably, will be given to the financial investment in that property which is condemned.

There is a political aspect to the housing program, which is also worthy of notice. Many in Congress state it this way: The planners and their apostles, who on Capitol Hill are frequently referred to as the "do-gooders," as well as the astute political bosses, like housing projects best of all. The "do-gooders" enthuse over them. They become a religion to them. They see old congested areas giving way to playgrounds. They never think of the financial aspect. Then the political bosses like them for a different reason; for a new housing project gives a political boss many opportunities to do favors; and the more favors you do, the better the boss stands.

Next, the armed services: The figure of 5,000,000 is used roughly for the immediate postwar period. This may not necessarily mean retention of men now in service, as later inductees, probably, will be used to replace those who have participated in actual fighting. The ultimate size of the armed forces will be determined, of course, by the Congress after the war, when the world has become more stable.

Youth training: Here is another 2,000,000 jobs. The original concept of this called for a year of regular military service. In that form, the proposal has the endorsement of the Army and Navy. Legislation looking to this end already is being discussed at the Capitol. However, both Mr. and Mrs. Roosevelt have advanced other ideas. The President has spoken of the need for training part of this youth group in industry and on the farm. Mrs. Roosevelt even has suggested that some of them be sent abroad with the American Army of Occupation to act as observers. The suggestion has also been made that such youth as may be trained in industry would become members of labor organizations, with their dues paid for by the government, as part of their training expense.

Federal employees: The post-war number is placed at approximately 4,-

000,000. A recent survey by a Washington newspaper of all the federal departments and agencies disclosed that not a single department or agency had any plan whatever for reduction of personnel after the war.

The same survey did show, however, that a number of the departments and agencies expected that they would need more employees.

What the Voters Asked For

Last but not least, *agriculture:* in 1939, rural employment was approximately 9,000,000. No accurate estimate exists today, as wives and children are now doing work which they are not expected to perform after the war. Thus, the post-war estimate is roughly placed at 11,000,000. The post-war job program here will hinge on crop allotments, acreage control, and animal birth control.

Much flexibility in the agricultural program is expected, as production will be contingent upon what world commitments are made.

Thus, you have the program that will be thrown in to "support the free enterprise system": 60,000,000 jobs. It embraces the range of industry, public roads, T. V. A.'s housing, armed services, youth training, federal employees, and agriculture.

To the New Deal, it is the way to the more abundant life; but others view it as planned economy by government, in keeping with the goal set back in 1933 by Rex Tugwell, which is bluntly termed by some "state socialism." To the New Deal group, the program is marvelous; to the anti-Tugwell group it is appalling. You can make up your own mind.

It is well to remember that in November the voters decided that it was not time for a change in Washington. That means that the planners' program is under way.

Then, too, let's take a look at the world. The trend which seems to be running in the United States appears elsewhere. A good reflection of this trend is found in the attitudes of the foreign purchasing commissions now in Washington. These missions are from Russia, Great Britain, France, the Netherlands, Mexico, India, Australia, Czechoslovakia, and China. These missions make it unmistakably clear that their governments will exercise complete control over both exports and imports, and that trade with their countries will not be by individual companies or corporations but by the governments themselves.

The British have taken steps to attune themselves to this new situation. It seems significant to note that, with little publicity in this country, the British House of Commons and the House of Lords recently approved a program entitled "Planned Economy for Great Britain." That is the exact title of the act; and, apparently, it means exactly what it says.

The program was submitted by the Churchill Government with the explanation that the British must take a realistic view of world trends. Debate in the British Parliament developed that the British program is almost identical with the New Deal program in the United States; but the debate also developed that the program would have wide support from British industrialists and bankers, and that it would generally meet with public approval. Thus, it looks as if planned economy in the United States and planned economy in Great Britain may be developing along parallel lines.

All of which leads up to one important question: How will the American planned economy program be financed? That, in turn, brings up the all-important question of taxes. There seems to be rather general agreement that taxes will remain at their present level until the end of the European war. Some reduction, but nothing specific as yet, will probably take place after that. So far the thinking of the planners has not been put down on paper; yet there is some indication that their thinking runs this way:

First, the general policy will be based upon the ability to pay. This will hold true for both corporations and individuals.

Second, materially reduced taxes for low-income groups.

Third, a lower tax rate, or a specific exemption of a certain amount of earnings, for small business.

Fourth, much of the relief to be granted larger corporations would be available only if a large proportion of the money is plowed back into the business for expansion purposes, which means that that money is to be used to provide more jobs.

And *fifth,* heavy individual taxes on salaries starting at about five thousand dollars and up.

Who Will Pay for It?

Overall, this can be summarized by that time-honored political phrase "Pull the most feathers with the fewest squawks."

Now, if the "ability to pay" formula is to be the basis of the tax policy, it is immediately apparent that higher incomes, both individual and corporate, will bear the brunt of the taxes. This makes one thing clear, and gives rise to another question.

That which is made clear is this: If the brunt of the tax program is to fall on the "ability to pay" group, the revenue obtained will be insufficient to curtail the national debt, and, in all probability, insufficient to meet current operating expenses, thereby necessitating further deficit financing.

The question which arises is this: From whence is new venture capital for new business expansion to be obtained?

First, there is some sentiment for limited tax relief to large corporations which reinvest a large percentage of their returns in expansion.

And *second,* Congress will be asked asked to approve a broad program of direct government loans or government-insured loans.

In fact, the second phase—that of government loans—already is in the making. Probably before this week-end, the White House will have approved and initialed a part of that plan, which has already passed the Congress. This is the $200,000,000 authorization for the Smaller War Plants Corporation. The money, when available—and that will be in the near future—will be added to the $19,000,000 remaining out of the Smaller War Plants Corporations original capital of $150,000,000, and will be spent this way: $140,000,000 for financing war and reconversion projects for smaller war plants, and $75,000,000 for financing sub-contracts where local banks are unwilling to make loans.

Business at Govt.'s Mercy

This Smaller War Plants lending policy gives an indication of the pattern which can be expected later on a larger scale. It should be remembered that the Smaller War Plants loan plan is being approved by the present Congress, which does not have the New Deal strength that will be found in the Congress which convenes this January.

First, in extending the Second War Powers Act, the House adopted what is known as the Hobbs Amendment, which would afford a limited court review of O. P. A., W. P. B., and O. D. T. suspension of priority orders.

Second, it is worthy to note that the Congress has finally reported out the long pending trademark and copyright bill. The measure is now awaiting final action by the Senate. If it is not approved by adjournment this time, it probably will never become a law.

That brings us to this new Congress. There are one or two points that seem indicative: Each member of the House and Senate has read the election returns carefully and understandingly. The first business of a Congressman is to start planning the day after one election to be re-elected at the next. He is sensitive to the drift of the wind; so start out and figure what will happen.

Since the Congressional elections in 1938, the House, with increased Republican strength, has been the conservative branch of the government. Now the Republicans find their strength reduced to 190, while that of the Democrats has mounted to 243. This means that, in the House, the Republicans, with the aid of Southern Democrats, can perform a blocking action. But they lack the strength to override a veto; and, as a result of this, there is no opportunity to take the lead in forming policy.

Those in power in Washington are in power. They are taking the elections as reaffirming their position and demanding that they carry on. You will find that the New Deal group will pursue its policy just as hard as it has in the past twelve years.

War-Time Copper Production Threatened

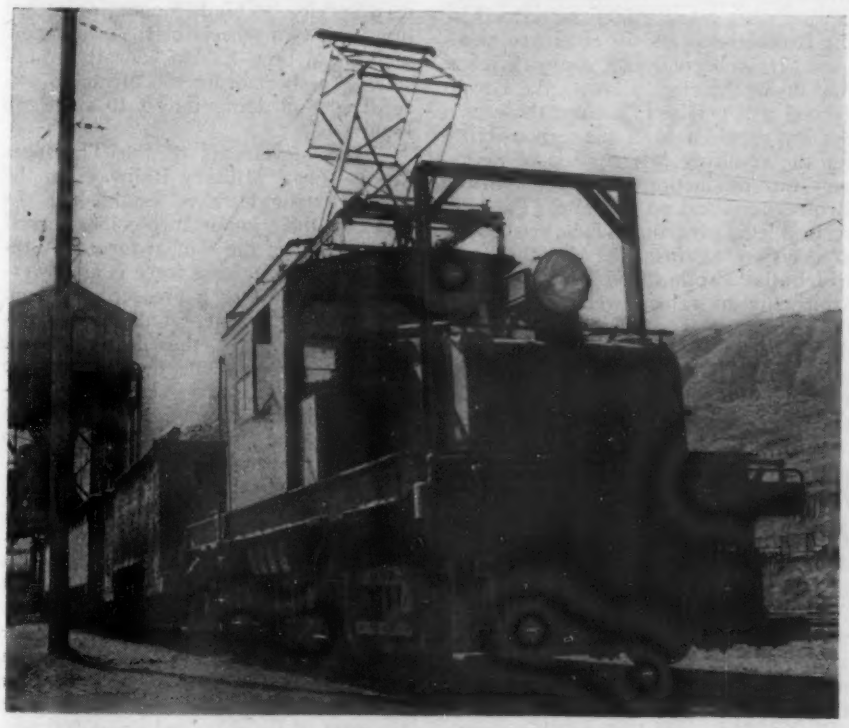
The Bingham & Garfield strike was a grave peril to vital metals until the Army took over the railway

AT 12:01 a.m., January 25, 1945, 37 engineers and firemen of the Bingham & Garfield, represented by the Brotherhood of Locomotive Firemen & Enginemen, went on strike in defiance of a recommendation from an emergency board appointed by President Roosevelt, which found against the Brotherhood. The strike caused approximately a six-hour interruption of the railway service, and the walk-out was terminated when the Secretary of War, under orders from President Roosevelt, assumed control of the railway's operations at 10 a.m. that day. Engineers and firemen on duty at the effective time of the strike continued to the end of their shifts, which terminated between 6 a.m. and 7 a.m., and after assumption of control by the Army approximately two hours elapsed before striking enginemen could report for duty, so that operations were resumed about noon on January 25.

Brotherhood Demand

The dispute was over a demand by the Brotherhood that a second man be placed in the cab of three trolley-electric locomotives which operate exclusively in yard service, to which demand the railway declined to accede. In assuming control and bringing about a resumption of operations, the Army sustained President Roosevelt's emergency board's report by placing only one man in the cab.

Had the strike lasted more than 10 or 12 hours it would have caused a cessation of operation of the Utah Copper Company's open cut mine at Bingham Canyon, Utah, and that company's ore concentrating mills at Arthur and Magna, approximately 20 miles north of the mine, which is served by the railway, and would have brought a forced lay-off to some 3,800 employees. It would also have compelled suspension of operations at the Garfield smelter of the American Smelting & Refining Co., involving some 1,000 men, the Bacchus plant of the Hercules Powder Company, employing approximately 100 men, and the Bingham Canyon operations of the United States Smelting, Refining & Mining Co., employing 200 men, as well as force some curtailment of operations of the National Tunnel & Mines Co.'s mine at Bingham Canyon, employing 50 men. Altogether, in excess of 5,000 men engaged in the production of copper, lead and zinc vital to the war effort would have been affected, and the suspension of operations by Utah Copper Company, the largest single producer of that metal in the United States, would have shut off approximately 28 per cent of America's domestic copper supply.



The Strike's Purpose Was to Force a Second Man Into the Cab of Three of These Trolley Locomotives

What It Was All About

In May, 1944, the Brotherhood of Locomotive Firemen and Enginemen made a demand for 11 changes in the working agreement between the Brotherhood and the railway covering engine service employees. The railway agreed to nine demands and found it necessary to decline two. One of the latter is the issue of helpers, which precipitated the strike, and the other demand was of a minor character, which was not pressed by the Brotherhood after the railway had declined.

In September, 1944, the National Mediation Board delegated J. Joseph Noonan to attempt settlement of the helper dispute by mediation.

One of the three electric locomotives in question works two shifts in the Bingham Canyon yard, and the other two work three shifts per day each at the Arthur and Magna yards. The crews consist of four men, a motorman, an engine foreman, and two brakemen. The two engines at the Magna and Arthur mills are used in spotting cars on car dumpers at the two mills for unloading. These, in addition to the engine at Bingham Canyon, operate in a very limited area and cross no public highways. The longest distance traveled by the trolley electrics at the Arthur and Magna mills is approximately ¼ of a mile, while at Bingham the longest distance traveled is approximately ¾ of a mile. At no time does the speed exceed 12 miles per hour and most of the time it is around 8 miles per hour.

The September Conferences

At the September conferences, in the presence of Mediator Noonan, the Brotherhood urged that helpers be placed on the engines in question because (1) helpers were advisable from a safety standpoint, (2) the motorman's work was monotonous and the employment of a helper would give him someone to talk to during his time on duty, and (3) a helper could relieve the motorman and let him rest. The railway declined the demand because (1) there were no duties for the helpers to perform, and (2) the railway has operated trolley-electric engines for 20 years, during which time some 350 million tons of ore have been handled without an accident which could

be charged to the absence of a helper in the cab, and continued operation in the past involved no hazard on that account. The Brotherhood adamantly refused to withdraw its demand, and the railway declined to recede from its position.

Mediation failing, Mr. Noonan suggested arbitration in an effort to settle the issue. On October 2, 1944, A. J. Chipman, acting vice-president of the Brotherhood, advised Mr. Noonan that it would not submit "any of the terms of the agreement in question" to arbitration. Subsequently, on October 7, the railway also declined arbitration, and on October 10 Mr. Chipman advised F. O. Haymond, vice-president and general manager of the railway, that the employees involved would strike at 12:01 a.m., November 9 unless "a settlement of this can be reached."

Emergency Board Named

On November 8, 1944, President Roosevelt named a three-man emergency board to investigate the dispute and the walkout was suspended, inasmuch as the provisions of the Railway Labor Act freeze the status of a dispute pending an investigation by an emergency board, its report to the President and for 30 days thereafter. The board was composed of Richard F. Mitchell, Justice of the Iowa Supreme Court; Walter C. Clephane, Washington, D. C., attorney, and A. G. Crane, former president of the University of Wyoming. The board held full hearings at Salt Lake City later in November, at which both the railway and the Brotherhood presented their cases, and the members of the board themselves visited the operations in question and rode the electric engines both during the day time and at night. The board's report to President Roosevelt concludes:

Report to the President

"The majority of the board cannot see how conditions would be noticeably improved by the addition of a fireman, in view of the facts hereinabove related, considering particularly the slow speed at which these trains travel and the possibility of stopping them in case of emergency by the air brakes on the cars. The testimony shows that on the Salt Lake & Utah, which runs from Salt Lake City to Payson (about 60 miles south of Salt Lake) there is a branch leading off of the main track going to Magna, which is about seven or eight miles in length, on which branch freight of all kinds is transported. Only one man is on the electric locomotives used on that branch. The same is true on the Bamberger line which runs from Salt Lake City to Ogden and which carries not only freight but also passengers. Likewise, on the Utah & Idaho Central, running from Ogden north to Logan, there is only one man in the cab. The trains on this road haul both passengers and freight.

"Under all the circumstances the majority of this board does not feel that it can recommend the addition of a fireman to the crew."

Brotherhood Disregards Report

In the face of the emergency board's report to the President against the Brotherhood, President Robertson of the Brotherhood of Locomotive Firemen & Enginemen telegraphed Robert F. Cole, secretary of the National Mediation Board on January 17, 1945, that "Authority is being given today for the men to leave the service and engage in a legal strike at 12:01 a.m. Thursday, January 25, unless in the meantime satisfactory settlement of the issue can be obtained. . . ." Mr. Cole telegraphed this advice to C. C. Parsons, president of the railway, to which Mr. Parsons replied by telegram January 17 as follows:

"Replying to your telegram of this date quoting a wire received by the board from President Robertson, Brotherhood of Locomotive Firemen & Enginemen. The dispute referred to grew out of the Brotherhood's demand that an additional man be employed on electric locomotives in yard service. The company refused because such a man would have nothing to do and would be in the way. That dispute was fully presented before the President's emergency board, and after an exhaustive hearing and investigation by that board was properly disposed of in favor of the company. So far as we are concerned that disposition was and is final.

"Utah Copper Company long has been the largest producer of copper in the United States and should this threatened strike occur, that critically essential operation must cease, a fact understood by the Brotherhood and its employee members. It is beyond our comprehension that under the circumstances the Brotherhood will persist in calling these men out, but should it do so, the responsibility for the resulting interruption of necessary war production must rest with the Brotherhood and no one else. The prescribed legal procedures have resulted in a decision against the Brotherhood, which the Brotherhood now presumes arbitrarily to reject, well appreciating the consequences to follow upon its conduct. We assume the prerogatives of government now will be permitted to transcend this high-handed conduct of the Brotherhood."

Colonel Wallace H. Hastings, transportation officer, Ninth Transportation Zone, who assumed control of the railway's operations, as War Department representative, under orders from President Roosevelt, said immediately after he took charge:

"I call on all employees to return to work immediately so that the transportation of ore by the railway and the production of copper which is dependent thereto may be resumed at once. I hope and urge that every worker will promptly respond to my call, but if they do not, I am prepared to take whatever action is necessary to see that operations are resumed and continued."

Operations of the railway are still continuing under Army direction, with one man in the cab of the electric locomotives in question.

When it became apparent that the Brotherhood intended to proceed with the strike regardless of the report by the President's emergency board or the serious effect their walkout would have on America's supply of war metals, President Parsons issued a statement to the press that he hoped the federal government would sustain the findings of its board and take appropriate action to prevent an interruption of copper production so badly needed for the war, adding that if federal authorities assumed control, they could expect full cooperation from the railway's management.

Army Railroading

(*Continued from page 381*)

tween the two countries, and is directly responsible for the smoothness in which the railway transportation system is now functioning.

The turntable in the Cherbourg shops was blown up and in order to repair it two large cog wheels, which were a part of the revolving mechanism beneath the table and were broken, would have to be sent to England for repair. A delay of several weeks would have resulted had not a local resident come to the aid of the Americans. He took Colonel Fay L. King, Sabula, Iowa, assistant general manager in charge of equipment of the Second Military Railway Service, to his home and presented him with two wheels of the exact size, which had been hidden beneath a haystack. In short order the turntable was repaired and doing its bit to speed up repairs.

The achievements of the Transportation Corps' Military Railways in the present struggle have established the fact that their importance comes second only to that of the combat forces. Without them, the striking force is as powerless and useless as a projectile without its propelling charge. Of all supply services of the Army, the Transportation Corps is the only one that is dynamic in its nature. It moves ceaselessly bearing its burdens of food, clothing, guns and troops, at the behest of those who fight and those who serve them.

L. M. S. VETERANS.—Nearly 7,000 London, Midland & Scottish railroaders who are over the retirement age, have elected to stay on the job for the duration of the war, T. D. Slattery, general traffic manager of the British Railways, has reported in New York. More than 6,000 of these, he said, have reached the retiring age since the start of the war, and about 900 who are over the 65-year limit, have emerged from their retirement.

Railroads-in-War News

Prompt Movement of Wounded at Fronts

Transportation corps and medical men operate in well-coordinated system

Complete cooperation between the Transportation and Medical Corps on the Continent is resulting in the "most expeditious handling of war casualties in the history of warfare," it has been reported by Headquarters, European Theater of Operations. A well-coordinated system of routing and operating hospital trains is in force and, day and night, these trains now travel over French and Belgian railroads on a 24-hr. schedule. Thirty-six such trains are operating on the Continent, and all wounded from the French and Belgian fronts are carried to two large railway stations in Paris for evacuation by ambulance to hospitals in that area. Anywhere from 18 to 25 hours is required for the most distant of the runs into Belgium.

It is reported that 127,012 patients have been handled at the Paris stations, nine trains daily arriving loaded with wounded from the fronts. In addition two trains leave Paris each day, carrying other wounded to ports or to rest areas elsewhere along the coast. Because the latter run is not made direct, it takes about 30 hours, an extended southerly routing being necessary so as not to interfere with the supply trains moving directly to the front from Cherbourg and other ports.

When Maj. Gen. Paul R. Haley, chief surgeon of the Medical Corps, receives word that wounded are to be picked up at a certain railhead, he notifies Lt. Col. E. J. Finnegan, of Chicago, chief of the passenger branch of the Office of the Chief of Transportation, in Paris. Colonel Finnegan, in turn, assigns a run to an idle hospital train waiting at one of the two Paris terminals. Railway transportation men are in charge of all routing and running of trains. In addition to the train and engine crew assigned to the run, two maintenance men ride the train, in case of emergency.

In World War I, only 10 U. S. Army hospital trains were operated on the Continent. Of the 36 now in use, five were built recently in the Paris railway shops by French civilians, under the direction of the 764th Railway Shop Battalion. Four more trains are in the final stages of construction, these being converted from third-class French passenger cars captured from the Germans. The 31 older trains were built in England from third-class British passenger cars under the supervision of American and English engineers.

Headquarters now reveals that pre-invasion plans to provide for emergencies "paid off" when, in July, 1944, before hospital trains could be brought from England, the 2nd Military Railway Service and the Army Medical Corps rigged up an ambulance train made of captured French box cars. The Transportation Corps had sent 45,000 lb. of pre-fabricated sections to Normandy in freight cars, these being landed from the first train ferries on the Cherbourg peninsula. The sections were used to convert captured French passenger coaches and the old "40 and 8" box cars into litter carriers, which comprised the first American hospital train to run on French soil after D-day.

Veteran Railroaders Make First Rome-Naples Civilian Run

Three former civilian railroaders, who went overseas together with the 715th Railway Operating Battalion 21 months ago and who have remained in the Mediterranean theater ever since, claim the distinction of having operated the first civilian train to run between Rome and Naples after the Germans had been driven out of this territory. They are Engineer, T/4 James McMahon, of Clinton, Ill., who worked for the Illinois Central; conductor, Sgt. Donald E. Milgrim, of Denver, Colo., formerly employed by the Chicago, Burlington & Quincy; and switchman, Sgt. James Bonner, Paducah, Ky., also a former I. C. employee. Lt. L. V. Cint, of Champaign, Ill., for 27 years with the I. C., was traveling engineer on the run.

Two former Santa Fe men were among the soldier railroaders to ready the 11-car train for the run, Allied Force Headquarters in Italy, announced. They were: Capt. S. E. London and Lt. H. H. Headlee, both of Los Angeles, Calif.

January Export Freight

Export freight, excluding coal and grain, handled through United States ports in January, totaled 179,030 cars, compared with 139,787 cars in the same month last year, or an increase of 28 per cent, according to the Association of American Railroads.

Export grain unloaded at the ports totaled 2,578 cars, compared with 3,244 cars in January, 1944, or a decrease of 21 per cent. Railroads handled 426 cars of coastal freight in January, 1945, compared with 1,104 in the same month in 1944, or a decrease of 61 per cent.

The total of 182,034 cars of export and coastal freight, excluding coal, handled through the ports in January this year represented an average daily unloading of 5,872 cars, the highest on record. The previous high record of 5,659 cars was established in September, 1944.

Meats for the Front Despite Difficulties

M.R.S. and Quartermaster corps are moving perishables in exceptionally fast time

Though hampered by an acute shortage of refrigerator cars and inadequate storage facilities, the Military Railway Service and the Quartermaster truck companies have transported huge quantities of meat and other perishables to Army mess halls on continental Europe, and "thanks to the efforts of these men" and to the cooperation of both services, soldiers "at the fighting front as well as the Service of Supply personnel are receiving fresh meats every day," Headquarters of the European Theater has announced. From July 21 to December 5, truck and rail facilities transported 78,794 tons of perishables. These included 28,148 tons of fresh meat, 6,630 of cured meat; 8,621 of poultry; 4,412 of sausage; 3,906 of butter; 1,488 of cheese; 2,239 of oranges; 435 of eggs; and 22,825 tons of fresh vegetables. And the report adds, Americans in France, Belgium, Holland and Germany also have received 482,235,200 "hot dogs."

At Thanksgiving, 467,254 turkeys were delivered, and for the usual Sunday night chicken dinners, railways and trucks have carried 2,389,906 chickens. Up to December 5, 8,305 tons of pork loins were handled, as well as 7,660 tons of steak and roast beef, 6,169 tons of hamburger and 5,987 tons of stew meat.

An acute shortage of refrigerator cars (there are on the Continent only 182 American-made cars in use) and the inadequacy of foreign-built reefers to maintain the low temperatures needed for handling fresh meats have made the movement of such perishables particularly difficult. A second problem has been to coordinate arrival of refrigerator ships at Cherbourg and Le Havre with the arrival of reefer railroad cars and reefer trucks. There has been the additional job also of procuring wet ice and salt for maintaining low temperatures, yet despite these difficulties there has been relatively small amount of spoilage. Until recently cold storage plants at Cherbourg and Le Havre were inadequate for handling a complete ship's cargo, and difficulties sometimes were encountered in returning sufficient cars promptly to these ports for re-loading. Six motor transport refrigerator truck companies have helped overcome such delays, however, and though their trucks were constructed for 100-mile trips, they have carried maximum loads as far as 300 miles in "exceptionally fast time."

Only 37 American-built reefers went to Europe on July 21, and it was not until

November 18 that the remaining 145 were landed.

I. C. C. Service Orders

The provisions of Interstate Commerce Commission Service Order No. 282, limiting the re-icing of refrigerator cars loaded with fruits and vegetables when consigned to certain northern and eastern points, have been modified by Amendment No. 1 to the order, effective February 18, which extended the restrictions on bunker icing within the defined territory to cover initial icing as well as re-icing. General Permit No. 1 under the order, effective February 17, made East St. Louis, Ill., and Dupo subject to the same re-icing and re-top icing regulations as St. Louis, Mo.

Service Order No. 276 has been superseded by the revised order of the same number. Effective February 19 to March 19, inclusive, it required the Atlantic Coast Line to route all symbol 7G petroleum traffic via Winston-Salem, N. C., and Shenandoah Junction, W. Va., to Twin Oaks, Pa., using the Norfolk & Western and Baltimore & Ohio lines. The original order had diverted 100 cars per day by the same route.

Civilians Warned Pullman Car Situation Getting Tougher

Civilians who persist in traveling unnecessarily have been given warning recently that although more than half of all available Pullman cars are being operated for the armed forces, the demand has not yet reached its peak and will steadily grow worse.

This warning was sounded on February 23 in a statement issued by Champ Carry, executive vice-president of the Pullman Company at Chicago. Mr. Carry pointed out that, although Pullman provides cars for the transportation of wounded men from seaports to inland hospitals and military personnel to posts of assignment, other cars have to be furnished for secondary units as well as foreign military services.

"Civilians must bear in mind that the war has created two new major obligations," Mr. Carry said. "The first is to see that our wounded or discharged men get safe and comfortable transportation to hospitals or their homes. The second is to transport military forces wherever needed. The situation is tough, and it's going to get tougher."

Tank Car Movement of Oil Still Affected by Weather

Noting that in the week ended February 10 comparatively mild weather in the Midwest and in most of the East had enabled the railroads to relieve the congestion that had delayed the movement of tank cars in some areas, Deputy Petroleum Administrator Davies reported that tank car deliveries of petroleum and products to the Atlantic coast had fallen to a new low for the past three years for the second consecutive week. The daily average for the week ended February 10 was 425,155 barrels, as compared to 439,722 the preceding week.

Through tank car trains making the long hauls from the Southwest were beginning to move without interruption through Buffalo, Pittsburgh and other northern gateways, however, he explained, and the backlog of tank cars that had been "stranded along right-of-ways and in terminals west of Detroit and Toledo" had been cleared.

Barge shipments still were tied up by ice during the week covered by Mr. Davies' report, and blizzards in New England had retarded tank car movements into that area, at the same time slowing down or entirely stopping local tank truck deliveries in that section. Pipelines continued to handle a normal volume of oil, and a "record" tanker vessel movement of 570,910 barrels a day into East coast ports was reported for the week ended February 3, the highest weekly tanker shipments since April, 1942, when these vessels were requisitioned by the government.

Effective March 1, movements of naphtha and natural gasoline into the East coast states by rail or inland and intercoastal waterway will require Petroleum Administration approval, Mr. Davies stated February 19.

This action was taken, it was explained, to afford more effective control over the distribution of motor fuel in that area, since unscheduled shipments of these blending constituents had resulted in unbalanced situations.

Distinguished Service Medal Awarded General Gray

Brig. Gen. Carl R. Gray, Jr., director general, 1st Military Railway Service in Italy and France, has received the Distinguished Service Medal for "exceptionally meritorious service to the government in a duty of great responsibility in Italy and southern France" in the period from October 20, 1943, to November 1, 1944. The presentation was made January 9, by Maj. Gen. T. B. Larkin, at his headquarters, southern line of communications, Eastern Theater of Operations, in France.

This is the third medal given General Gray overseas, the first one being the Legion of Merit, which was awarded November 2, 1943, for his activities in North Africa. On October 7, 1944, he was cited by the Italian government with the Order of the Crown of Italy.

The present citation reads, in part:

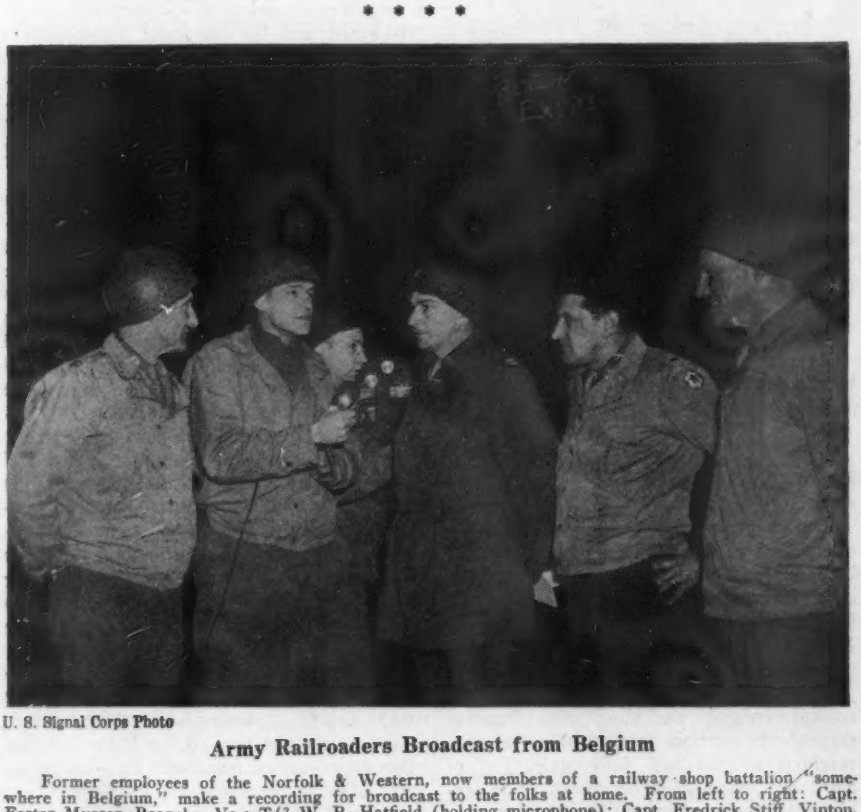
"Due to Allied bombings and German demolitions, rail, yard and power facilities were thoroughly demolished and all electrical motive power was useless. By his infinite knowledge of railway operation and construction, General Gray quickly substituted steam power for electric, directed reconstruction of all facilities, and by exercising extraordinary foresight and tact, coordinated and directed the combined effort of the M. R. S. with civilian railroad personnel to insure the support required by our rapidly advancing armies."

A recent photograph of General Gray was published in the February 17 *Railway Age*, page 348.

Pelley Receives Wedge Award for "Devotion to Duty"

John J. Pelley, president of the Association of American Railroads, recently was honored before a gathering of Army, Navy and civilian governmental officials, in Washington, D. C., when he became the recipient of "The Wedge Award," made at intervals by the Georgia Hardwood Lumber Com-

* * * *



U. S. Signal Corps Photo

Army Railroaders Broadcast from Belgium

Former employees of the Norfolk & Western, now members of a railway shop battalion "somewhere in Belgium," make a recording for broadcast to the folks at home. From left to right: Capt. Foster Musser, Roanoke, Va.; T/3 W. P. Hatfield (holding microphone); Capt. Fredrick Stiff, Vinton, Va.; and 1st Lts. Duffield R. May and William O. Hunt, of Roanoke, Va. Lt. E. M. Borsuk (at rear) is operating the wire recorder.

pany for outstanding achievement. The presentation was made by Sen. Walter F. George, of Georgia. The outward symbol of the award is a miniature wedge embedded in a miniature log.

Senator George spoke briefly of Mr. Pelley's rise from station clerk with the Illinois Central to president, successively, of several railroads, and now as head of the A. A. R., and lauded the railroads for what he considers probably the outstanding achievement of the country at war. The Senator thought it phenomenal that the railroads, despite their own scarcity of manpower and equipment, have rendered such services as they have without resorting to any system of priorities.

Among those in attendance at the presentation were: Maj. Gen. Charles P. Gross, chief of transportation, U. S. Army; Rear Admiral W. B. Young, chief of the Navy's bureau of supplies and accounts; Col. J. Monroe Johnson, director of the Office of Defense Transportation; John L. Rogers, chairman of the Interstate Commerce Commission; Chairman Clarence F. Lea of the I. C. Committee of the House; and Eric Johnston, president of the U. S. Chamber of Commerce. Owen R. Cheatham, president of the Georgia Hardwood Lumber Company, was host at the luncheon.

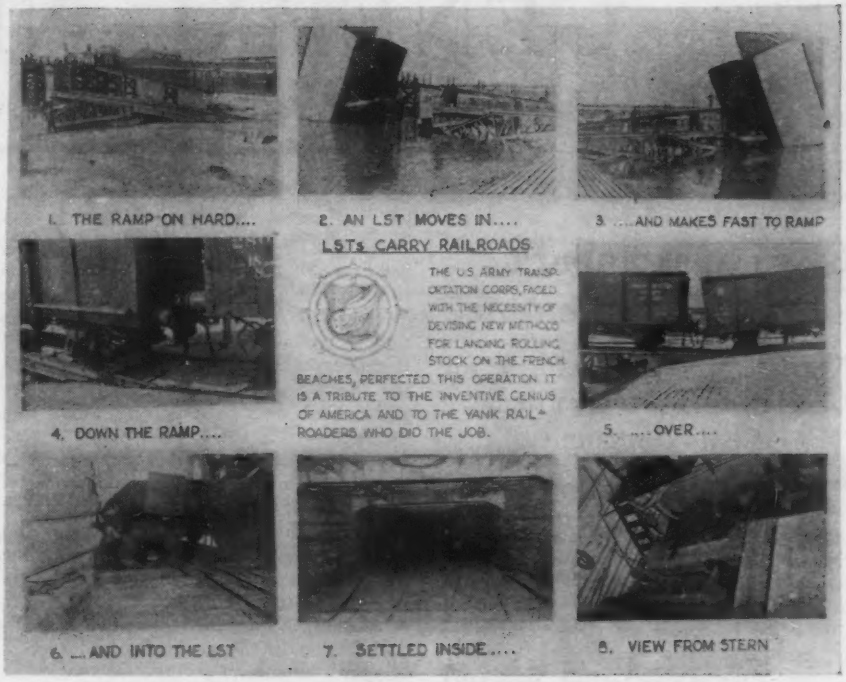
Convention Ban Interpreted

Permits from the War Committee on Conventions are not required for conventions, conferences and group meetings which have an out-of-town attendance of 50 persons or less, in addition to local attendance, according to Colonel J. Monroe Johnson, chairman of the committee. Approval of such meetings is not thereby implied, he explained, but this interpretation of the formula under which the committee operates has been dictated by the burdensome volume of applications before it. The ban on gatherings requiring hotel sleeping space for more than 50 persons applies to cattle, horse, dog, horticultural or other trade shows, he pointed out.

2nd M. R. S. Staff Gets Six More Railway Officers

Six railway officers, including five commissioned directly from civilian status and one from duty in Alaska and Italy, have been added to the staff of the 2nd Military Railway Service, Headquarters of the European Theater of Operations has announced.

Operating men and technical engineers on their previous jobs, the new officers include: Lt. Col. G. C. Stuart, of Chicago, formerly assistant division superintendent, Chicago & Northwestern, and now with one of the advanced supply base sections in the E. T. O.; Maj. Charles T. Kenny, St. Paul, Minn., who, with four years' experience as a division superintendent with the Great Northern and as Pacific Coast representative for the Office of Defense Transportation, before joining the Transportation Corps, is now commanding officer of the 716th Railway Operating Battalion; Lt. Col. R. E. Sherer, Minneapolis, Minn., an engineer technical specialist, who was on duty with the 1st M. R. S. in Italy as chief maintenance engineer, and on temporary service in Alaska before being detailed as commanding officer of the 707th Railway Grand Division; Lt. Col. C. E. Crippen, Minneapolis, formerly division engineer and assistant chief engineer and trainmaster on the Milwaukee, and now with one of the advance supply base sections as an engineer technical specialist; Lt. Col. H. W. Jensen, St. Paul, assigned as engineering specialist with advance headquarters, and formerly division engineer on the Chicago, St. Paul, Minneapolis & Omaha; and Maj. D. T. Parrish, Johnson City, Tenn., who was once assistant chief engineer of the Clinchfield Railroad, and who prior to being assigned to one of the base sections in France, was for 12 years on various construction jobs in Central America.



Loading Cars Onto an L. S. T.

* * * *

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since February 7, and which are of interest to railways:

Aluminum—W. P. B. has directed that a 10,000,000-lb. increase in monthly aluminum ingot production be accomplished by four plants where operations had been curtailed. W. P. B. also reported that aluminum sheet mills will be allowed to accept additional orders for April and subsequent months. The order books on aluminum sheets were closed on January 6, 1945, for the first four months of 1945 to allow military procurement agencies to adjust allotments and schedule deliveries to meet critical programs. Production of aluminum sheet has increased from about 55,000,000 lb. to a rate of about 80,000,000 lb. monthly since the first of December, but it is still well below the necessary levels.

Plywood—Purchase of softwood plywood under blanket maintenance, repair and operating supplies ratings has been prohibited in order to curtail the use of this critical material for relatively non-essential purposes. The action was taken by an amendment to Order L-150-a and is expected to conserve an estimated 7,000,000 to 8,000,000 sq. ft. of softwood plywood per month, which has been passing through distributors' hands on blanket MRO ratings. Production is at the rate of about 125,000,000 sq. ft. per month, W. P. B. said.

Resin—Gum resin, wood resin and nitrocellulose plastics have been placed under the controls of Order M-340, governing miscellaneous chemicals. Ratings are to be honored only for preferred orders when accompanied by the certification specified by the order, with the exception of orders bearing AAA ratings.

Steel—Some tightening of controls over the sale of steel from warehouse stocks may be expected, in the face of expanding war demands. W. P. B. approval already has been suspended temporarily on warehouse sales of critical steel products on an "ex-allotment" basis, under Direction 44 to CMPR-1.

A sizable increase in warehouse steel inventories, which had been built up in the fourth quarter of 1944, has largely melted away during the last six weeks as a result of heavy war orders, and warehouse inventories have been depleted by rail embargoes and by the fact that purchasers had not allowed sufficient lead time when placing mill orders with consequent greater demand on warehouse stocks.

Prices

Pig Iron—An increase of $1 per gross ton in basing point base ceiling prices for pig iron became effective February 14. It is the first increase in pig iron ceiling prices since price control began with issuance of a pig iron schedule on June 24, 1941, formalizing a voluntary agreement of the industry with O. P. A. that pig iron would not be sold above the prices in effect on June 24, 1941.

Since mid-1941, production costs of pig iron have risen $4.79 per gross ton. Despite some improvement in sales realization during that period, O. P. A. said, an adjustment of price was necessary.

Rubber Bands—Dollar-and-cent ceiling prices have been established by Amendment 18 to MPR-220, effective February 17, for buna-S synthetic rubber bands. The ceilings depend on size of package and volume of purchase. The dealer ceilings on purchases of one to four pounds range from $1.50 to $2.50 per lb. On purchases of 500 lb. and over, the ceilings range from 89 cents to $1.26 a lb. Four package sizes are listed.

GENERAL NEWS

Gives Spartanburg a RR "Valentine"

Norris urges square deal for carriers to preserve their aids to community

The dangerous inconsistency of business men, who say they believe in the free enterprise system but do not *act* accordingly in their dealing with transportation, was the central theme of an address on February 14 to the Spartanburg (S. C.) Chamber of Commerce by President E. E. Norris of the Southern.

Such business men, said the Southern's chief executive, "blind their eyes" when they are forced to make a choice between "transitory personal gain and those everlasting principles which alone give permanence to the organizations and relations of mankind." Continuing he said in part:

Sabotaging Freedom—"Almost without exception, the business men of this country say that they believe wholeheartedly in the enterprise system; in the 'American way' of doing things; in private ownership; in individual initiative; and in political, personal and economic freedom. Most of them are sincere. Most of the business men in this country know that this nation could not exist without its railroads and that the privately owned and operated railroads are the first line of defense against the socialization of all industry. They know, too, that competition between the various forms of transportation has never been fair or equal, because only the railroads stand on their own feet and pay all their own way. Nevertheless, if you scratch the surface of any campaign for still greater expenditures of the taxpayers' money for super-highways, super-waterways, super-airports or super-what-have-you's, you will invariably find quite a flock of the best business men supporting the project and busily figuring out how they can get a return from such an investment of the other fellow's hard-earned dollars.

"They mean no harm to the railroads or to the American enterprise system. They would be shocked if someone told them that they were contributing to the sure death of all freedom in this country. But no amount of explanation can alter the fundamental fact that their support, for selfish purposes, of governmental expenditures to help some forms of transportation at the expense of the only transport agency which pays all its own way is nothing more than the complete negation of what they profess to believe. And unless they act in accord with what they profess to believe, we will once more hear the anguished cry: 'I didn't know it was loaded.'"

A R. R. "Valentine"—Mr. Norris went on to tell his audience of the "Valentine" tendered by the railroads, and the Southern in particular, to the territories they serve. One aspect of this "Valentine" to citizens of Spartanburg is the fact that the Southern has an annual payroll of over $2,000,000 in that community. "This," said the speaker, "is not funny money; it goes directly into local commerce and trade, into your banks, into the purchase of property, clothes, food, amusement, and all the other necessities and luxuries of the good life that you offer here. It helps to keep the wheels turning in Spartanburg. Every person in this room must share, in one way or another, in the benefits of this railroad's contribution to the prosperity and success of your community."

The speaker went on to explain that the Southern "furnishes about $85,000 a year toward the cost of your local and county government. These too are dollars that flow into local channels of commerce and trade. They provide more jobs for your friends and neighbors. They help to pay for your fire and police protection, your hospitals, the operation of your courts, the maintenance of your 15 public schools and the salaries of the 275 officers and teachers.

Would Send More "Valentines"—"In normal times the railroads of the country spend about two million dollars a year in the state of South Carolina for materials and supplies, and a goodly share of these purchases are made in eleven communities in Spartanburg county. All in all, at least 2,300,000 railroad dollars roll into Spartanburg each year. And our Valentine's wish is that, throughout the years to come, nothing will be permitted to impair our capacity to provide jobs and payrolls and fair taxes and purchase dollars in such volume as to insure the continued growth of this progressive city and the well-being of its friendly citizens."

Order in Through-Routes Case Effective March 15

The Interstate Commerce Commission has now fixed March 15 as the effective date of its order in the No. 28647 proceeding where it prescribed through routes, short-hauling the Pennsylvania, on grain and grain products from central western territory, via Hagerstown, Md., to points on the so-called Del-Mar-Va peninsula. The order by Commissioner Aitchison permits the filing of the necessary tariffs on 15 days' notice.

As noted in the *Railway Age* of February 3, page 277, the Supreme Court of the United States recently upheld the commission in this case wherein the Transportation Act of 1940's through-routes provisions were interpreted as authorizing the commission to require a carrier to short-haul itself out of consideration for shippers.

Will Hear Argument on Tying Trucks to Rails

I. C. C. reopens case involving Frisco Transportation Company operations

The Interstate Commerce Commission has reopened, for reconsideration and reargument, the No. MC-C-293 proceeding wherein Division 5's report passed upon complaints against operations of the Frisco Transportation Company, subsidiary of the St. Louis-San Francisco, and found in effect that railroads purchasing independent truck lines do not acquire operating rights as broad as those enjoyed by the vendors, but must confine services subsequent to the purchase to those which are auxiliary or supplemental to railroad service. The oral argument will be held before the full commission at Washington, D. C., on March 16.

Gets Less Than It Buys—No. MC-C-293 is the so-called *Campbell case*, and Division 5's decision was reported in the *Railway Age* of August 26, 1944, page 348. A follow-through from that decision is Examiner David Waters' proposed report (noted in last week's issue, page 359) in No. MC-89913 (Sub-No. 1) and 10 other proceedings, which recommends that various truck routes acquired from time to time by the Frisco Transportation Company be now restricted by the imposition of specific conditions designed to insure that the highway freight services remain auxiliary to St. Louis-San Francisco rail services. The conditions recommended by Examiner Waters would be those which the commission has been imposing in public-convenience-and-necessity cases where railroads are involved.

And now the commission has before it also another proposed report in another Frisco acquisition proceeding—No. MC-F-2529. In this latest report, Examiner John S. Higgins of the Section of Finance, Bureau of Motor Carriers, suggests that the public-convenience-and-necessity cases do not comprise a proper guide for acquisition cases. He goes on to express the view that "a practical and sensible interpretation" of the Interstate Commerce Act's section 5, which contains the acquisition-of-control provisions, "justifies the conclusion that railroads and their subsidiaries may lawfully perform 'service by motor vehicle' so long as they meet the proof requirements of said section in other respects and do not, in fact, unduly restrain competition."

More Limitations Sought—Examiner Higgins' report is on Frisco Transporta-

(*Continued on page 398*)

I. C. C. Block Signal Order on 2,100 Mi.

A. C. L. show cause citation accompanies approval of I. T. C. installation

The Interstate Commerce Commission has served upon the Atlantic Coast Line an order to show cause why it should not be required to install upon specified lines in its system "an adequate block signal system." The order, which requires a formal return by April 2, was a result, it was indicated, of two train accidents in territory where no block system was in use, where the reports following the commission's investigation included recommendations that the company should install an "adequate" block system.

I. T. C. Approved—The show cause order was dated and made public February 19. Subsequently the commission made public an order also dated February 19, approving the road's application for authority to install an inductive train communication system on 234 miles of line from Rocky Mount, N. C., via Wilmington to Florence, S. C. Except for two segments of main line already equipped with automatic block signals and an automatic train stop system, that is, 19 miles from Rocky Mount to Contentnea and 13 miles from Pee Dee, S. C., to Florence, the line on which the inductive communication system would be installed is one of those to which the show cause order is applicable.

One of the train accidents which led to a recommendation that a block signal system be installed occurred on July 1, 1942, near Whigam, Ga., on the single-track line from Thomasville, Ga., to Montgomery, Ala. This was a head-end collision between two passenger trains in territory where operations were by timetable and train orders, there being no block system in use. The accident was a result of failure to obey a meet order, according to the commission's report. One employee was killed and 90 passengers and 20 employees were injured.

Automatic or Manual—The second accident referred to in the show cause order occurred on January 27, 1943, at Acree, Ga., on the single-track line from Albany to Waycross. This was a side-collision involving an extra passenger train and a freight, and also occurred in territory where operations were by timetable and train orders, there being no block system in use. The immediate cause of the accident was failure to obey a stop indication displayed by a train-order signal, according to the commission's report. Two employees were killed and 19 passengers and 5 employees were injured.

Investigations of these "serious train collisions" led to a finding that "if there had been an adequate block signal system in use the accidents would not have occurred," the show cause order indicated. Its terms would give the road the option either of installing, on the lines specified, an automatic block signal system meeting the commission's requirements, or of putting a manual block signal system into effect to conform to the following conditions: "A passenger train will not be admitted to the block when occupied by another train, except under flag protection; no train will be admitted to the block when occupied by an opposing train or by a passenger train, except under flag protection; and a train other than a passenger train will not be permitted to follow a train other than a passenger train into the block except when authorized by a train order, permissive signal or prescribed form, and when such movement is so authorized the following train must proceed with caution at not exceeding medium speed and be prepared to stop short of a train or obstruction."

The A. C. L. lines to which the requirements of the show cause order apply are as follows: Sanford, Fla., to Tampa; Florence, S. C., to Robbins; High Springs, Fla., to Lakeland; Thomasville, Ga., to Dotham, Ala.; Haines City, Fla., to Lake Harbor; Jesup, Ga., to Waycross; Dothan, Ala., to Montgomery; Norfolk, Va., to Rocky Mount, N. C.; Waycross, Ga., to Thomasville; Waycross to Albany; Sumter, S. C., to Columbia; Dupont, Ga., to High Springs, Fla.; Lakeland, Fla., to Fort Myers; High Springs, Fla., to Croom; Jacksonville, Fla., to Wilcox; Contentnea, N. C., to Wilmington; Wilmington, N. C., to Pee Dee, S. C.; Thomasville, Ga., to Dunnellon, Fla.; Florence, S. C., to Wadesboro, N. C.; and Trilby, Fla., to St. Petersburg. A total of about 2,100 mi. of line is thus involved.

I. T. C. Supplementary—The inductive train communication installation, as approved, would involve equipping 20 locomotives assigned to freight and passenger service, 14 cabooses, and 4 dispatchers' offices (two at Wilmington and one each at Florence and Rocky Mount) with train telephone equipment. The South Rocky Mount Yards also would be equipped for use of inductive communication in switching service, for which installations would be made in 2 yardmasters' offices and 9 switching locomotives.

The order by Commissioner Patterson approving the application was subject to five conditions. The first of these provided that the inductive communication system installation "shall be supplementary to and not supplant any . . . existing signal systems or other systems, devices, or appliances intended to promote the safety of railroad operation." Other conditions required compliance with I. C. C. rules for installation and maintenance; made the prescribed conditions, or the applicable rules, subject to modification; and required completion of the installation within one year from the date of the order. Still another condition made approval by the commission prerequisite to any "material" change in the present method of operating trains, signal systems or interlockings in territory where the installation is made.

1945 Bus Output Cut Back

Revised quotas for the manufacture of integral buses during 1945 were announced at a recent meeting of the Bus Manufacturers Industry Advisory Committee, according to the War Production Board. The new quotas provide for production of 9,413 integral buses during 1945, a reduction of 979 buses from the earlier production program approved by the W. P. B. The production will occur in the last six months of 1945.

House Pension Hearing Recessed Until 27th

Management will then be heard on R. L. E. A. program for liberalization

House interstate and foreign commerce committee hearings on the Railway Labor Executives' Association's program for liberalizing the Railroad Retirement and Railroad Unemployment Insurance acts were recessed on February 16 until February 27 when railroad management's presentation in opposition to the proposals is scheduled to begin. The proposals are embodied in H. R. 1362, introduced by Representative Crosser, Democrat of Ohio.

C. I. O. Appears—Presentations of labor organizations were concluded at the February 16 session with brief statements from Lewis G. Hines, national legislative representative of the American Federation of Labor, and George L. P. Weaver, representing the United Transport Service Employees of America, Congress of Industrial Organizations. Mr. Hines was on hand merely to call attention to the fact that the A. F. of L. had sent the committee a telegram urging favorable action on the bill. Mr. Weaver also supported the bill in its entirety, but he laid particular emphasis on its provisions for the crediting of prior service of red caps.

In announcing the recess until the 27th, Chairman Lea noted that the committee had received a "great mass" of material, which could not be immediately digested. He added that the committee also has before it the "important question" of whether the benefits can be met by the taxes proposed; for it is "very important" that the men to whom benefits are promised be not disappointed later on.

Questions of Solvency—Meanwhile John T. Corbett, assistant grand chief engineer and national legislative representative of the Brotherhood of Locomotive Engineers, had completed the statement wherein he protested against the failure of R.L.E.A. to submit its program to collective bargaining procedures, and against Railroad Retirement Board Chairman Murray W. Latimer's "partisanship" in working on the R.L.E.A. program while refusing to discuss such work with non-affiliated unions or railroad management. These protests were reported in the *Railway Age* of February 17, page 355.

The remainder of Mr. Corbett's statement was a detailed discussion of various provisions of the bill with emphasis on the B. of L. E.'s "chief concern" to "fully protect the continued solvency" of the retirement system's funds. Among other things, Mr. Corbett questioned the "step rate" tax plan proposed. He favored a "flat rate of taxes which competent actuaries may consider sufficient. . . ." Under the bill, the retirement tax would be increased five per cent, becoming 11½ per cent of payroll and rising to 12½ per cent after December 31, 1951. These taxes are paid half by the employees and half by the carriers. The carriers, in addition, pay the entire unemployment insurance levy of three per cent of payroll.

Subsidies Injure Employees—Be-

cause funds of the retirement system are impaired when government subsidies to other agencies of transport result in diverting business from the railroads and thus reducing railroad payrolls, Mr. Corbett asked that the bill be amended to require that no public funds be spent on transportation projects unless they receive from the Interstate Commerce Commission a certificate of public convenience and necessity after a showing "that existing transportation facilities cannot, or will not, furnish the necessary services found to be immediately needed, and that there exists a public need for such government subsidies." Moreover, if a transportation project qualified for a subsidy on this basis, Mr. Corbett would then have Congress appropriate as part of the cost of such subsidies such amounts as the I. C. C. and Retirement Board "may consider as necessary to reimburse railroad employees for any adverse conditions which may have been created upon their employment and wages . . . and to provide sufficient appropriations to the Railroad Retirement funds to cover any adverse effects upon those funds which the less desirable employment conditions of the affected railroad employees may create."

Pensions from the Subsidized—Finally, Mr. Corbett would have the subsidized project take care of an annuity for any railroader who became unemployed as a result of the tax-supported competition. In such a case, he said, the B. of L. E. recommends "that there shall be charged against the costs of such a subsidized project such an additional amount as may be required to reimburse the Railroad Retirement funds for the cost of an annuity to be provided such an employee upon his loss of his position with the railroad caused by such a subsidy."

Questioning R. L. E. A. claims as to the adequacy of the taxes proposed, Mr. Corbett expressed doubt that the additional five per cent would put the present benefits on a sound financial basis—let alone providing for the proposed liberalization. R. R. B. Chairman Latimer had previously testified that, in his opinion, 1.5 per cent of the additional taxes proposed should take care of the present deficiency, leaving 3.5 per cent to provide the new benefits. In support of this position, Mr. Latimer presented figures and estimates to explain away results of the latest actuarial valuation of the retirement system which showed that as of December 31, 1941, the present taxes were deficient by about five per cent.

Wants Convincing Figures—Mr. Corbett, too, had figures to support his position. They were designed to show that minimum-benefit provisions and annuity provisions for lower-paid employees are calculated to return such employees more in benefits than the amounts paid in by themselves and the carriers. "The Brotherhood of Locomotive Engineers," he said in summing up this phase of his testimony, "is of the opinion that there must be some additional data, or mathematical information, furnished by the proponents of this legislation to show how this frenzied finance may be expected to be continued indefinitely, and with complete safety to the funds for providing payments of the annuity benefits being provided for at present, or being proposed in H. R. 1362."

He went on to tell a story about a waiting passenger who complained, when a delayed train finally arrived, that the "train appears too heavy." A railroad officer standing nearby replied that "the train is not too large—the engine is too small."

"From the point of view of a railroad man," Mr. Corbett continued, "we are apparently facing a somewhat similar condition at present because there appears evidence that the train of benefits is too large, or the locomotive as represented in the form of taxes is far too small. It is quite a common practice amongst practical railroad men to fit the tonnage of trains to the power known to be available. That information may be of assistance to the committee."

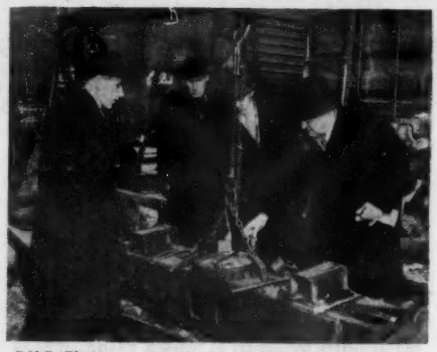
Looking over the bill's proposal to permit women employees with 30 years of service to retire at 60 years of age with full annuities, Mr. Corbett suggested that the tax set-up would not support such a plan. He pointed out that women at age 60 have a life expectancy of 19.43 years. Later on, the B. of L. E. representative pointed up his misgivings as to the whole R. L. E. A. proposal when he asked "how can it be possible to increase benefits in so many different ways, and for large amounts, and continue the solvency of the funds?"

"We want," he added, "exact tables showing every procedure—not guesses that some estimated percentages of an estimated payroll, based upon estimates of estimated conditions, based upon estimates of absolutely unknown future conditions, emanating from individuals whose estimates of their estimates may be considered as questionable by better estimators, might present."

Unfair to the Higher Brackets—The failure of the retirement system to provide all employees pro rata returns for their taxes was attributed by Mr. Corbett to approach of the "so-called social worker," who proposes "that the employee who develops ability and assumes responsibility shall be penalized because of the increased wages his abilities and responsibilities have secured for his services." He therefore wondered "if it might not be proper to suggest that the author of this legislation, its proponents, the committee, and the Congress, give consideration to the preparation of a retirement plan which would provide for more nearly equal pro rata returns to all employees who may provide taxes, but with the further provision that supplementary subsidies shall be provided by the government so that the annuities of those citizens whose wages may be in the lower brackets may be increased to an amount which may assure them of acceptable living conditions after they have retired from employment."

Meanwhile, if the lower paid employees are to be left with relatively better annuities, the B. of L. E. favors increasing the annuities of higher-paid employees; and it would expect to support any necessary increase in taxes. Seemingly, however, it would not go as far as the Brotherhood of Railroad Trainmen in suggesting a 10 per cent increase in all pensions and annuities.

As noted in last week's issue, this B. of R. T. suggestion was made by Martin H. Miller, its national legislative representative. Mr. Corbett said he would have to approach it "with hesitation, at least until there has been some proper data to show more exact information as to what tax levy would be required for such increases." But Mr. Corbett did go along with most of Mr. Miller's other suggestions, including his opposition to dropping the present death-benefit provisions as part of the new survivor-annuity proposal; and his support of those parts of the bill which would liberalize unemployment insurance benefits.



C.N.R. Photo

Russian Railway Supply Men Visit the C. N. R.

These railway equipment officers of the Soviet Union's Purchasing Commission (at present in Washington, D. C., arranging post-war purchases) expressed particular interest in locomotive and car maintenance and repair under winter conditions experienced in Canada, when they visited the Canadian National's roundhouse and car repair tracks at Turcot, Que., and its motive power and car shops at Point St. Charles, Que. The group, here shown inspecting a car truck, includes (left to right): V. V. Ivanov, chief, department of railroad equipment; G. D. Melnikov, chief of locomotive section; A. Petoukhov, chief of car section, and G. E. McCoy, assistant chief of car equipment, C.N.R.

* * * *

Names E. J. Connors to Solve Adjustment Board Jam

President Roosevelt has designated Edward J. Connors, vice-president, operation, of the Union Pacific, to investigate and recommend means of disposing of an accumulation of about 5,000 undecided cases pending before the first division of the National Railroad Adjustment Board. The letter giving Mr. Connors this assignment, dated February 13, was made public at the White House on the 17th.

After pointing out that the late Joseph B. Eastman had instituted "extended" conferences between representatives of the railway brotherhoods and the carriers that were not productive of any agreement, the letter stated that "additional cases are being submitted in a volume in excess of the board's capacity to decide them."

The brotherhood leaders have advised the President, he wrote, that "most of these additional cases, as well as the pending cases, cover disputes and questions of labor agreement applications already decided by previous rulings of the board." Moreover, he has been advised that "this delay in decision and the resultant accumulation of cases before the first division of the board have been discussed frequently and over a long period of time in conferences between representatives of the railroads and the brotherhoods concerned; but an analysis of the detailed nature necessary properly to determine the applicability of prior deci-

sions to pending cases has never been made. It is stated also," the letter continued, "that some railroads have declined to apply decisions that have been rendered by the board."

In asking Mr. Connors to make such an analysis and to submit a report including recommendation "as a basis for action that will dispose of the problem," the President delegated to him authority to study and make recommendations for (1) settlement or disposition of the disputes, and (2) reduction in the number of controversies submitted to the first division and improvement in methods and procedure for the more expeditious handling of cases. Mr. Connors was authorized to employ such staff as may be required, and the N. R. A. B. and the National Mediation Board were directed to render necessary assistance and to make their records and documents available. Provision was made for compensation from the "Emergency Fund for the President" at the rate of $50 per diem for the time actually employed in this assignment, plus travel expenses.

Mr. Connors had only recently returned to his position in the Union Pacific organization after having been on leave until February 1 for service in Washington as director of the Railway Transport Department and the Division of Transport Personnel of the Office of Defense Transportation.

Streamlined Timetables "Simple as A. B. C."

Something seems to be going on in the section of design of public timetables. In December, the Atlantic Coast Line came forth with a streamlined and modernized version of its folder and, on February 11, the Boston & Maine released a timetable that has been 28 months in the making.

The Atlantic Coast Line folder contains a page of suggestions intended "to help you use this folder," and all information concerning trains, destinations and fares, which are clearly set forth on succeeding pages, can be located quickly by referring to the table of contents.

The new Boston & Maine timetable, on which typographical experts and the railway's passenger traffic department have been at work since 1942, is considered something of an innovation in public schedules. Simply composed, it bears a type design unlike that used in any other railroad folder. The black and white covers, familiar for half a century, have been discarded for a two-color effect, and on the back of the folder is a cartoon strip, explaining six steps to follow in using a timetable. The railroad suggests it is "simple as A. B. C.," and at once voices the hope that this timetable "will, for all time, destroy the illusion of many that no one can possibly understand one of those complicated things."

Status of U. P. Police Employees

The Interstate Commerce Commission, Division 3, has amended its orders now in effect defining work as that of employees or subordinate officials of common carriers by railroad to include the work of special agents (below the rank of division special agent), money guards, train riders, head watchmen, assistant head watchmen, yard watchmen, head guards, and guards of the Union Pacific, and guards of the Ogden Union Railway & Depot Company. The report in Ex Parte No. 72 (Sub-No. 1) follows generally the proposed report of Examiner Claude A. Rice which was noted in the *Railway Age* of October 7, 1944, page 558.

Freight Car Loading

Carloading totals for the week ended February 17 had not been announced by the Association of American Railroads when this issue went to press.

Loading of revenue freight for the week ended February 10 totaled 755,436 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, February 10

District	1945	1944	1943
Eastern	136,539	153,590	151,249
Allegheny	156,164	176,802	168,844
Pocahontas	60,238	57,523	55,915
Southern	125,134	123,881	124,667
Northwestern	82,381	86,637	77,119
Central Western	123,276	122,018	113,315
Southwestern	71,704	72,730	74,162
Total Western Districts	277,361	281,385	264,596
Total All Roads	755,436	793,181	765,271
Commodities			
Grain and grain products	41,347	53,800	48,215
Live stock	13,571	14,813	12,442
Coal	176,013	185,959	178,415
Coke	14,738	14,975	15,603
Forest products	38,902	44,694	38,324
Ore	10,757	13,959	14,025
Merchandise l.c.l.	96,763	99,370	94,071
Miscellaneous	363,345	365,611	364,176
February 10	755,436	793,181	765,271
February 3	738,680	805,714	755,514
January 27	758,870	810,890	734,670
January 20	777,320	798,650	703,294
January 13	782,387	779,531	755,498
Cumulative Totals, 6 Weeks	4,495,660	4,757,595	4,431,423

In Canada.—Carloadings for the week ended February 10 totaled 65,424 as compared with 65,350 for the previous week, and 66,738 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
Feb. 10, 1945	65,424	37,159
Feb. 12, 1944	66,738	38,077
Cumulative Totals for Canada:		
Feb. 10, 1945	377,346	201,064
Feb. 12, 1944	349,834	214,418

Asks Court Rejection of Pullman Divorce Plan

The U. S. District Court at Philadelphia, Pa., has been asked by the Justice Department to reject Pullman's plan for separation of its sleeping car and car manufacturing businesses under the government's anti-trust suit decree of June 8, 1944. Wendell Berge, assistant attorney general in charge of the anti-trust division of the department, objected to the plan as "unclear" and not complying with the court's order for a complete separation. On behalf of the government, Mr. Berge suggested that Pullman, Inc., should be required to sell all the stock or all the physical properties of the Pullman Company and to deal with any prospective purchaser or purchasers.

He stated that any disposition of the company's stock or assets should contemplate the use of the sleeping car pool on the country's railroads and that the Pullman Company should be required to sell sleeping cars to individual railroads at not more than the depreciated value of the cars. Mr. Berge said the final judgment should also contain these conditions: that the purchaser of the sleeping car business shall sell sleeping cars to railroads and service railroad-owned sleeping cars; that the purchaser shall conduct both partial and through line operations; and that the purchaser shall be prohibited from using exclusive right clauses and be forbidden to acquire competitors.

Names Senate Subcommittee on B. I. R. Reports

Chairman Wheeler of the Senate committee on interstate commerce has appointed a subcommittee, headed by himself, to consider the 13 reports submitted to Congress by the defunct Board of Investigation & Research which was created by the Transportation Act of 1940. The board died on schedule September 18, 1944, and the 13 reports were submitted to the President and Congress late on the afternoon of its last day in office.

Only one of the reports has thus far been printed—that on Practices and Procedures of Governmental Control of Transportation. It is House Document 678 of the seventy-eighth Congress. It is understood that the House committee on interstate and foreign commerce plans to print at least two of the other reports—Public Aids to Carriers and Carrier Taxation.

Members of the Senate subcommittee, in addition to Chairman Wheeler, are Senators Stewart of Tennessee, Mitchell of Washington, Democrats, Reed of Kansas, and Gurney of South Dakota, Republicans.

Stevens Honors John Duer

John V. P. Duer, assistant to vice-president (operation) of the Pennsylvania and chairman of the sub-committee on economic studies of the Railroad Committee for the Study of Transporation, was one of nine engineers and industrialists who were awarded Stevens honor medallions for notable achievement in their various fields of endeavor, at the 75th anniversary dinner of Stevens Institute of Technology on February 15, as was briefly noted in the February 17 issue of *Railway Age*. The speakers at the dinner, which was held at the Hotel Astor, New York, were Governor Walter E. Edge of New Jersey; Lieutenant General William S. Knudsen, director, Air Technical Service Command; and Dr. Harvey N. Davis, president of Stevens.

Edwin Augustus Stevens, founder of the Institute, was a pioneer in the development of the railways of New Jersey, in the improvement of steam navigation, and in the design of the modern battleship through the building of the ironclad Stevens Battery. He was a son of Colonel John Stevens, who established the world's first steam ferry and built for experimental demonstration on the present college grounds, the first locomotive in America to be driven by steam. In 1815 he obtained the first American charter for a railroad.

During the three-quarters of a century Stevens has had only three presidents—Dr.

Henry Morton, who served 32 years; Dr. Alexander Crombie Humphreys, who served 25 years, and Doctor Davis. During the 17 years of the latter's administration unspecialized training in engineering has been stressed as a liberal education suited to conditions of present-day living, and as a training which qualifies its recipients, as well for administrative positions as for work in the engineering profession directly.

December Accident Statistics

The Interstate Commerce Commission on February 16 made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for December and last year's 12 months. The compilation, which is subject to revision, follows:

Item	Month of December		12 months ended with December	
	1944	1943	1944	1943
Number of train accidents*	1,526	1,337	16,273	16,061
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	107	104	1,499	1,715
Injured	78	71	1,152	1,343
Passengers on trains:				
(a) In train accidents*				
Killed	41	74	164	205
Injured	140	200	1,824	2,365
(b) In train-service accidents				
Killed	5	1	62	48
Injured	236	191	2,819	2,666
Travelers not on trains:				
Killed	4	1	16	12
Injured	133	115	1,083	1,124
Employees on duty:				
Killed	105	77	981	980
Injured	4,500	4,186	47,249	45,794
All other nontrespassers:**				
Killed	247	224	2,056	1,982
Injured	800	819	6,925	7,025
Total—All classes of persons:				
Killed	509	481	4,778	4,942
Injured	5,887	5,582	61,052	60,317

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that former cause damage of more than $150 to railway property.

** Casualties to "Other trespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Persons:				
Killed	236	216	1,840	1,732
Injured	566	526	4,193	4,217

Bill Would Create Transport Study Commission

Creation of "a commission to study and report legislative recommendations on a coordinated transportation policy affecting aircraft, railroads, buses, and trucks, including their communications needs" is proposed in S. 556 which has been introduced by Senator McFarland, Democrat of Arizona. The bill was referred to the Senate committee on interstate commerce, and Chairman Wheeler of that committee has in turn referred it to a subcommittee consisting of Senators McFarland, Johnston, McMahon, Democrats, Reed and Austin, Republicans.

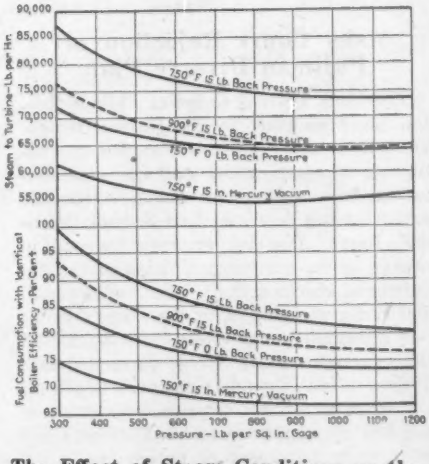
The proposed commission would be composed of two members of the Senate committee on interstate commerce, appointed by the president of the Senate upon recommendation of the chairman of that committee; two members of the House committee on interstate and foreign commerce, appointed by the speaker of the House upon recommendation of the chairman of that committee; the secretary of state or a representative designated by him; the chairmen (or representatives designated by them) of the Interstate Commerce Commission, Federal Communications Commission, and Civil Aeronautics Board; and "a representative of the public appointed by the President with the advice and consent of the Senate, who shall act as chairman of the commission and shall be paid a salary of $8,000 per annum."

"It shall be the duty of the commission," the bill says, "to make a full and complete study and investigation of interstate and foreign commerce by means of aircraft, railroads, buses, and trucks including the relation of communications thereto, with a view to determining the interrelation of these forms of commerce and their communications needs, and the commission shall make such reports and legislative recommendations to the President and to the Congress resulting from its study and investigation as it deems necessary or desirable in the establishment of a coordinated and comprehensive transportation policy. The commission shall make its final report and recommendation not later than two years after the date of enactment of this act."

The bill would authorize an appropriation of $25,000 for the commission, and in addition would authorize it to utilize the services, facilities, and personnel of other government agencies. Also, the I. C. C. would be authorized "to make available such space and office facilities as the commission shall require."

A Geared Steam-Turbine Locomotive

The graph showing the effect of steam conditions on the fuel and steam consumption of various back pressures and steam temperatures on page 340 of the article describing the Pennsylvania geared steam turbine locomotive in the February 17 issue of the *Railway Age* was incorrectly lettered. In each of the two groups of curves the legend of the second one from the bottom read "750 deg. F. 15 lb. back pressure." These two curves are for zero back pressure, as shown in the corrected reproduction of the graph. Attention is also called to the fact that these curves were calculated for a 6,000-hp. turbine and not a 6,900-hp. turbine.



The Effect of Steam Conditions on the Fuel and Steam Consumption of a 6,000-Hp. Turbine Locomotive

O. D. T. Appointment

Lee A. Christiansen has been appointed acting eastern director, Railway Transport Department, of the Office of Defense Transportation, with headquarters in New York, during the absence through illness of Eastern Director Alfred R. Pelnar.

Mr. Christiansen has been attached to the New York office of the O. D. T. since April, 1942; for the six years previous to that he was assistant district manager for the Association of American Railroads in New York.

Contracts of Contract Carriers by Water

The Interstate Commerce Commission, Division 1, has instituted an investigation to determine whether contract carriers by water should be required to file with the commission copies of their contracts, charters or agreements with shippers. The proceeding is docketed as Ex Parte No. 161.

The order states that verified statements and briefs, including requests for hearing and oral argument may be filed with the commission on or before April 2.

S. A. L. Dispute Settled

The dispute between the Brotherhood of Locomotive Firemen & Enginemen and the Seaboard Air Line regarding procedures for the reinstatement of dismissed engineers has been settled on the basis recommended in the recent report of the emergency board appointed by President Roosevelt when the dispute reached the strike-threat stage. The emergency board's report was noted in the *Railway Age* of January 27, page 248.

It recommended that reinstatement procedures be modified so that in all cases involving discharge or suspension of enginemen, the matter be handled jointly to a conclusion by the B. of L. F. & E. and the Brotherhood of Locomotive Engineers, neither having the power to veto in cases originating within the other. The B. of L. F. & E. had objected to that phase of the previous arrangements whereby the concurrence of the B. of L. E. was required before a dismissed engineer would be reinstated.

Representation of Employees

The Brotherhood of Railroad Trainmen has supplanted the Order of Railway Conductors as the Railway Labor Act representative of Texas & New Orleans road conductors, according to results of a recent election which has been certified by the National Mediation Board. The B. of R. T. won by a vote of 352 to 187.

The Trainmen also won another recent election from the O. R. C., thus retaining the right to represent road conductors employed by the Pittsburgh & West Virginia. In another P. & W. V. election, the Brotherhood of Locomotive Firemen & Enginemen supplanted the Brotherhood of Locomotive Engineers as representative of locomotive engineers.

N. M. B. has dismissed without prejudice

an application of the Railway Employees Department, American Federation of Labor, for an investigation and determination as to whether the A. F. of L.'s Brotherhood of Railway Carmen may represent Pittsburgh & Lake Erie carmen, their helpers and apprentices (including coach cleaners), now represented by the American Federation of Railroad Workers. Acting upon a mediator's report that the A. F. of L. application was supported by less than a majority of the employees involved, the board found that no representation dispute existed within the meaning of the Railway Labor Act.

January Ton-Miles

The volume of freight traffic handled by Class I roads in January decreased six per cent under the corresponding month of last year, and amounted to approximately 57,000,000,000 ton-miles, according to preliminary estimates based on reports received by the Association of American Railroads from the carriers.

	1944	1943	Per cent increase
11 months	680,337,455,000	666,394,928,000	2.1
December	[1]57,700,000,000	60,614,577,000	D4.8
Year	738,037,455,000	727,009,505,000	1.5
	1945	1944	
January	[2]57,000,000,000	60,487,994,000	D5.8

[1] Revised estimate.
[2] Preliminary estimate.

January freight traffic was 3.5 per cent greater than the same month two years ago, and 2¼ times that of 1939.

The accompanying table summarizes revised statistics for the year 1944, and preliminary figures for January, 1945.

Ayres Sees Steam Locomotive Designs Improved in 1945

A redesigned and radically transformed "iron horse," perhaps embodying a new method and principle for utilizing coal as a source of power, may soon emerge on the railroads to battle with the Diesel for supremacy. Such is the opinion Brigadier General Leonard P. Ayres, economic advisor to the Chesapeake & Ohio Lines, expressed in an article in the March issue of "Tracks," C. & O. employee magazine.

"At the beginning of this year," he writes, "the makers of locomotives had orders on their books for twice as many line-haul Diesel engines as they had for line-haul steam units. With respect to switching engines the conditions were much more extreme since the makers had orders on their books for 205 Diesel units, and for no steam units."

Despite the apparent advantages of the Diesels, he says, they have one serious disadvantage which makes nearly all railroad men worry about them. That disadvantage is that they burn oil instead of coal. "If all locomotives were Diesels, the freight traffic of the railroads would be enormously reduced. From 30 to 35 per cent of all the tons of freight originated and hauled by American railroads consists of coal. It is often stated as a truism that families cannot support themselves by taking in one another's washing, but railroads do largely support themselves by hauling one another's coal."

"One-fifth of all the coal mined in this country is consumed by steam locomotives. If little or none of it were so used the coal mining industry, as well as many of the railroads, would be dealt a staggering blow. The purpose of the intensified research that is being devoted to locomotives this year is to ward off that sort of catastrophe. The objective is to develop new types of coal-burning locomotives that will have the advantages of the Diesels, and perhaps in addition some new ones of their own."

Many Roads Involved—"Already the Pennsylvania is making tests of a new coal-burning locomotive which is driven by two steam turbines instead of getting its power from the ordinary reciprocating engine. . . . Nine of the most important coal-carrying railroads have pooled their resources and their engineering skill and experience to experiment with new types of coal-burning locomotives. The Chesapeake & Ohio is a member of this group. . . . Another joint effort is being carried on by the coal-carrying roads in cooperation with the General Electric Company and the Babcock & Wilcox Co. This project is an effort to develop a coal-burning steam turbine engine. . . . Railroads and equipment companies also have under way a joint project which is aimed at the development of a locomotive driven by a gas turbine. This will be a coal-burning locomotive, but not a steam locomotive.

"One clear probability is that during this year of 1945 there will be more improvement in the design of locomotives than there has been in any single previous year for many decades. Probably some really successful steam and gas turbine locomotives will be produced. Whether they will possess all or most of the advantages of the Diesels remains to be seen."

A Record Year on the Lakes

A prediction that tonnage handled on the Great Lakes in 1945 will exceed previous records accompanied a report of Lawrence C. Turner, director of the Office of Defense Transportation's Waterways Department, which disclosed figures on 1944 bulk-cargo movements on the lakes that constituted an all-time high.

The total 1944 tonnage of the principal commodities in the Great Lakes traffic—that is, coal, iron ore, limestone, and grain—was 184,155,384 net tons, he reported, an increase of more than 8,000,000 tons over the 1943 total and of more than 1,250,000 tons over the previous record year's movement, that of 1942. For the principal commodities, the net tonnages handled in 1944 were: Iron ore, 90,911,003; bituminous coal, 58,747,203; anthracite coal, 1,416,127; grain, 16,228,880; and limestone, 16,852,171.

An indication of the ability of the lakes fleet to meet war demands was seen by Mr. Turner in its achievement in moving in each year since the defense program was undertaken in 1940 more bulk freight than was handled in 1929, the peacetime record year. In 1944 there were 443 vessels of United States registry in the lakes fleet, as well as numerous Canadian ships, he pointed out. For the first time in history, the total movement of coal reached 60 million tons. Grain shipments increased "enormously," amounting to 583,880,803 bushels, of which wheat, moved mostly from Lake Superior ports, amounted to more than 420,000,000 bushels.

January Operating Revenues Down 1.2 Per Cent

From preliminary reports of Class I roads representing 81.8 per cent of total operating revenues, the Association of American Railroads has estimated that the January gross totaled $598,432,443, a decrease of 1.2 per cent under the $605,889,476 reported for January, 1944. Estimated January freight revenues were $444,131,949, compared with $448,807,576, a decrease of 1.0 per cent. Estimated passenger revenues were $111,612,941, compared with $113,531,091, a decrease of 1.7 per cent.

I. C. C. Refuses to Reinstate Wool Rate Investigation

The Interstate Commerce Commission has refused to reinstate its No. 28863 investigation of freight rates on wool and mohair throughout the United States. The refusal came in an order, dated February 5, denying "without prejudice to the filing of a formal complaint" petitions of the Department of Agriculture, War Food Administration, various organizations of wool growers and marketers, and the Public Utilities Commission of Idaho. The proceeding was instituted by the commission in August, 1942, and discontinued a year later.

Bills in Congress

Senator Magnuson, Democrat of Washington, has introduced S. 549 to give the Interstate Commerce Commission authority, after complaint and hearing, to override any state's regulations and prescribe maximum sizes and weights for motor vehicles, including loads.

H. R. 2174 has been introduced by Representative Burgin, Democrat of North Carolina, "to exclude certain publicly controlled carriers from the definition of 'employer' in the Railroad Retirement Act of 1937, the Railroad Unemployment Insurance Act, and section 1532 (a) of the Internal Revenue Code." Representative Peterson, Democrat of Florida, has introduced H. R. 2238 to liberalize the prior service provisions of the Railroad Retirement Act.

The House committee on labor has reported favorably a bill "to prohibit discrimination in employment because of race, creed, color, national origin, or ancestry." A permanent Fair Employment Practice Commission would be set up under the bill, H. R. 2232, which is sponsored by the labor committee chairman, Representative Norton, Democrat of New Jersey. Additional bills to end daylight saving time have been introduced by Senator Wherry, Republican

of Nebraska, and Representative Norrell, Democrat of Arkansas. They are S. 557 and H. R. 2151. Representative White, Democrat of Idaho, has introduced H. R. 2282 to repeal the Standard Time Act's section relating to the placing of a certain portion of Idaho in the third time zone.

S. 555 and H. R. 2203 to establish a Missouri Valley Authority have been introduced, respectively, by Senator Murray of Montana and Representative Cochran of Missouri, Democrats.

Club Meetings

The Northwest Car Men's Association will next meet at 8 p.m., March 5, at the Midway Club, 1931 University avenue, St. Paul, Minn. George Schadegg, car inspector, Chicago Great Western, is scheduled to speak on "The Car Inspector's Problems."

"Staybolts for the Locomotive Firebox," will be discussed by Fred P. Huston, of the International Nickel Company, at the February 28 meeting of Railroad Enthusiasts, Inc., in Room 5928, Grand Central terminal, New York. An added feature of the meeting, which will begin at 7:45 p.m., is the movie, "Mining of Nickel Ore," which Mr. Huston will use to illustrate his talk. In addition, the A. A. R. color-sound movie, "Life Line of the Nation," will be shown.

The Railway Club of Pittsburgh (Pa.) will meet February 22, at 8 p.m., at the Fort Pitt Hotel. A paper on the Principles of Modern Welding Practice will be presented, and there will be lantern slides, as well as a sound moving picture showing the effects of robot bombing on England.

A full discussion of the A. A. R. Interchange Rules will be conducted by R. A. Burke, Mather Stock Car Co., and E. G. Bishop, Illinois Central, when the Car Department Association of St. Louis (Mo.) meets at 8 p.m., Feburary 20, at the DeSoto Hotel.

There will be a regular monthly meeting of the New York Traffic Club, February 27, at 6:30 p.m., at the Hotel Biltmore. Peter Donald, master of ceremonies of the radio program "Can You Top This?" is scheduled to appear.

Will Hear Argument on Tying Trucks to Rails

(*Continued from page 392*)

tion's application for authority to purchase the Missouri-Arkansas Transportation Company's operating rights between Kansas City, Mo.-Kans., Fort Smith, Ark., and certain points in Oklahoma and Kansas, which rights are now leased by Frisco for a three-year period expiring April 30. The examiner would have the commission approve the transaction, subject to a condition excluding the right to render service at specified points. He would not, however, go along with independent motor carrier contentions that "the instant application should be denied unless vendee is willing to confine its motor service to that which is an adjunct of the railroad."

"The words 'auxiliary,' 'supplementary,' and 'substituted,'" the proposed report says, "are not contained in the description of findings in section 5(2) and the real meaning of the language 'will be consistent with the public interest and will enable such carrier [a railroad] to use service by motor vehicle to public advantage in its operations and will not unduly restrain competition' cannot be ascertained by reference to decisions of this commission arising under section 207, where the statutory test is public convenience and necessity and in which cases 'key point' and other restrictions have been placed in certificates issued to railroads and their subsidiaries.

"Assuming that railroads may acquire motor-carrier properties within their own territories, such properties would become parts of the railroads' general operations, and, as the word 'service' usually embraces the entire product of their business, there is grave doubt whether vendee would be performing any 'service by motor vehicle' whatever if it should be restricted to the mere use of motor trucks in lieu of freight cars in handling the railroad's freight only, at railroad billing and rates. . . . Rail carriers could hardly be expected to resort to section 5 proceedings for the purpose of requiring such restricted rights, and if Congress desired to exclude them from performing 'a service by motor vehicle,' it certainly would have used clear and definite language not now contained in section 5 or in the national transportation policy to accomplish that result. Protestant would make the statute read 'use motor vehicles to public advantage in the railroad's rail operations' but such an interpretation by this commission would amount to legislation by administrative action.

Restrictions Reduce Competition—"The theory that railroads should not compete with themselves by operating an all-motor service, is difficult to understand in view of the fact that railroads now perform various classes of passenger and freight services at varying rates and, unless Congress intended that a railroad's all-motor service should compete with the services of so-called independent motor carriers, the phrase 'will not unduly restrain competition' might well have been omitted from section 5, as every purchase by a railroad of operating rights which are restricted, after acquisition, to the transportation of railroad freight only would completely eliminate one motor carrier from the field of competition."

Next came Examiner Higgins' suggested "practical and sensible" interpretation of section 5, as noted above. He then went on to deal with specific phases of the case in hand, coming to his recommendation for conditional approval of the proposed acquisition.

No Opposition to Hobbs Bill

Blame for the lack of investment attractiveness of railroad stocks should be shared by "Wall Street" and the Interstate Commerce Commission, according to congressmen advocating enactment of the Hobbs bill (H.R.37) restricting the commission's power to reduce the capitalization of railroads in section 77 reorganization proceedings and giving the courts additional responsibility in shaping such plans. As noted in *Railway Age* of February 17, page 357, this bill was passed in the House February 14. This action was taken without a record vote and without any expression of opposition.

Representative Reed, Republican of Illinois, speaking in support of the bill, asserted that "we cannot have a transportation system in these United States unless we show some willingness to protect the man who puts his money into it, not merely the banker who lends money on the bonds, but the little fellow who buys the stock. We must keep railway investments attractive for stockholders." He went on to point out that the "people who are being hurt" by the formula by which I. C. C. reorganization plans have been shaped, fixing capitalization on the basis of "depression earnings," are not "the great financial institutions of our metropolitan centers. . . . The large bondholding institutions which are able to get together and protect their interests throughout these proceedings have reaped a rich reward, for they will own the reorganized companies. . . . The result has been victory for them—for the property is being turned over to them, while little stockholders . . . have been left out in the cold."

Mr. Reed went on to say that "the earning power of the carriers generally is within the control of the commission." When the commission fails to regulate the rate structure so there will be a fair return to the carrier it should not "be allowed to correct its failure by destroying the investor," he argued.

International Forwarding Co. Elects Officers

Following the acquisition of control of the International Forwarding Co. and its associated enterprises in the domestic and foreign freight forwarding field by William A. Bade and other employees on February 10, the following officers of the Illinois corporation have been elected: President, Mr. Bade; executive vice-president, S. R. Ricklefs; vice-president, Karl G. Schroff; assistant vice-president, R. H. Burgess; assistant to the president, Howard C. Shaw; secretary, Neils Forsberg; treasurer, David Silverstein; and commerce counsel and assistant secretary, C. J. Burrill.

Soo Line Sets up Boston and New York Freight Offices

The Minneapolis, St. Paul & Sault Ste. Marie, which has been represented in New York City by the Canadian Pacific since World War I, has opened its own freight traffic office in the Woolworth building, 233 Broadway, with E. E. Smeed, eastern general freight agent, in charge. The railway will also have independent representation in Boston, where A. J. O'Malley, general freight agent, has offices at 80 Federal street.

No Railroad Demurrage charges have been incurred in the East Works plant of the American Rolling Mill Company in more than 27 months despite shortages of help and unfavorable winter weather which froze certain kinds of raw materials in the cars. During the 27-month period, American Rolling Mill Company employees loaded and unloaded 74,000 cars.

Equipment and Supplies

Equipment on Order

Class I railroads on February 1 had 36,734 new freight cars on order according to the Association of American Railroads. On the same date last year, they had 33,411 on order.

This year's February 1 total included 7,086 hopper, 5,763 gondolas, 850 flat, 18,997 plain box, 1,771 automobile, 2,158 refrigerator, and 109 stock freight cars.

The Class I roads had 451 locomotives on order on February 1 compared with 863 on the same day in 1944. The former figure included 80 steam, two electric and 369 Diesel-electric locomotives compared with 303 steam, two electric and 558 Diesel-electrics one year ago.

Class I roads put 4,468 freight cars in service in January compared with 2,856 in the same month last year. Those installed in the past month included 1,829 hopper, 411 gondola, five flat, 130 stock, 25 refrigerator, 105 automobile box, 1,963 plain box freight cars.

They also put 34 new locomotives in service in January, of which three were steam, and 31 were Diesel-electric. New locomotives installed in January, 1944, totaled 92, of which there were 36 steam, one electric and 55 Diesel-electric.

LOCOMOTIVES

The EMPRESAS DE MINERCAO (Brazil) has ordered two steam locomotives of 2-6-2 wheel arrangement from the Baldwin Locomotive Works.

The CHESAPEAKE & OHIO has ordered ten steam locomotives of 4-8-4 wheel arrangement from the Lima Locomotive Works. The inquiry for this equipment was reported in the *Railway Age* of January 20.

FREIGHT CARS

The DONORA SOUTHERN has ordered 50 40-ft. 8-in. steel triple hopper cars of 70 tons' capacity from the American Car & Foundry Co.

SIGNALING

The ELECTRO-MOTIVE CORPORATION has ordered from the General Railway Signal Company 2 intermittent schedule No. 2 engine equipments for use in testing. Four sets of continuous inductive train control equipment have been ordered for installation on passenger engines for the Chicago & North Western.

The MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE has placed an order with the General Railway Signal Company for a table top mounting control machine to control an end of a passing siding at Stevens Point, Wis. The control panel is equipped with a track diagram, 3 track indicating lights, and 3 levers to control 4 signals and 1 electric switch machine. Other items, ordered are type K relays, type SA high and dwarf signals, model 7 switch circuit controllers and a model 5D dual-control electric switch machine.

The FLORIDA EAST COAST has ordered from the General Railway Signal Company a unit-wire control machine for the control of 1 electric switch machine and 4 signals at a junction at Edgewater Junction, Fla. The machine will be located at New Smyrna, Fla., about 2.5 miles from the most distant controlled location. The 12 by 17 in. control panel will be equipped with a track diagram, 11 track indication lights, 2 signal levers, 1 switch lever, and 2 toggle switches to control yard indicators. Other materials ordered include type K relays and welded steel cases.

The CANADIAN PACIFIC has ordered a unit-wire, table-top mounting control machine from the General Railway Signal Company for the control of a grade crossing with the Pere Marquette, combined yard entrance and interchange track, and protection at two highway crossings at Chatham, Ont. The 18 by 27 in. control panel will have 10 indicated track circuits, and 4 switch levers and 6 signal levers for the control of 5 switch machines and 6 signals. There will also be 2 levers for control of highway crossing protection. The track model diagram will be equipped with movable route indicators and facilities for adding further controlled area in the future. Five model 5D dual-control switch machines are included in the order.

The CHICAGO, BURLINGTON & QUINCY has placed an order with the General Railway Signal Company for equipment to install type K, class-M centralized traffic control on 131 miles of single track between Hastings, Neb., and McCook. This installation will use 2 master units and will employ G.-R.-S. carrier link control. The machine, to be located at McCook, will be U-shaped, with a total linear panel length of 148 in. The control panel will have a track diagram with 100 track indicating lights. One hundred sixteen working levers will control 36 switch machines, 7 electric switch locks, and 118 signals. A 44 point recorder will also be installed in the control machine. Equipment ordered includes type SA high and dwarf signals, type K relays, model 9A electric switch locks, model 5D dual control electric switch machines and welded steel housings.

SCRAP SALVAGE.—A total of 1,145,117 tons of scrap materials has been salvaged and reclaimed by the Canadian National since the start of the war, and in addition, there has been reclaimed a total of 88,303 tons of various materials with a value of $5,404,603, the railway's stores department has announced. During 1944, the best year yet in scrap collection, 154,480 tons of miscellaneous scrap and 73,064 tons of scrap track rails were disposed of by the C. N. R. This represented a combined total increase of 30,479 tons over 1941, the next highest year, and the "fine showing is due to the special co-operation of employees in the stores, maintenance-of-way and mechanical departments," the railroad said.

Supply Trade

H. V. Ennis has been appointed assistant to the vice-president in charge of manufacturing of the **American Car & Foundry Co.**

The **Sterling Engine Company,** Buffalo, N. Y., has received its fourth Army-Navy "E" award for continued production achievement.

T. W. Pettus, executive vice-president, has been appointed president of the National Bearing division of the **American Brake Shoe Company.**

Samuel C. Prest has been appointed engineer of tests of the **Association of Manufacturers of Chilled Car Wheels** with offices at Chicago, to succeed George J. Weber, deceased.

Mr. Prest entered the employ of the Griffin Wheel Company as an inspector in 1933 following his graduation from the University of Chicago. He was subsequently advanced to general inspector with that company, which position he held until



Samuel C. Prest

November 1935. From 1935 to 1937 he served with the Association of Manufacturers of Chilled Car Wheels in their research department where he assisted in the development of the present unit-pit type of annealing, now standard with the car wheel industry. He returned to the Griffin Wheel Company at the end of 1937 where he has been on the staff of the Cupola division up to the present time. During this period he was engaged in special work relating to cupola operations of Griffin plants, and in addition he has actively assisted in special studies being carried on by committees of the wheel association leading to changes in the design and specifications for the manufacture of chilled car wheels.

William P. Shotwell, supervisor of air conditioning and car lighting of the Erie, has resigned to become sales representative in the New York office of the **Safety Car Heating & Lighting Co.**

L. G. Burwinkel, assistant to the central district manager, has been appointed assistant, to the vice-president and sales

manager, of the **Westinghouse Electric & Manufacturing Co.** Mr. Burwinkel joined the Westinghouse Company in Cincinnati, Ohio, in 1924, and served in various accounting and sales positions until 1938 when he was transferred to Pittsburgh, Pa., as central district auditor and district superintendent. He was appointed assistant to the central district manager in 1940.

Ralph J. Cordiner has been elected vice-president and assistant to the president of the **General Electric Company** with general administrative duties as designated by the president. Mr. Cordiner has been assistant to the president for the past 18 months, since his resignation as vice-chairman of the War Production Board. Following his graduation from Whitman College in Walla Walla, Wash., in 1922, he was employed as commercial manager of a division of the Pacific Power & Light Co., A year later he joined the Edison General Electric Appliance Company, serv-



Ralph J. Cordiner

ing successively as northwest manager in Portland, Ore., and Pacific Coast division manager in San Francisco, Cal.

In 1932, when the heating device activities of Edison G-E Appliance were moved from Chicago and consolidated with General Electric's merchandise department at Bridgeport, Conn., he was transferred as manager. Two years later he was appointed assistant manager of appliance sales for General Electric and in 1935, manager of the radio division. Subsequently, he was appointed assistant manager of the appliance and merchandise department, and in 1938, manager, to succeed Charles E. Wilson, now president of the company. He resigned from General Electric in August, 1939, to become president of Schick, Inc., of Stamford, Conn., leaving that company in December, 1942, to enter government service as director general of war production scheduling and vice-chairman of the War Production Board.

Raymond P. Townsend has been named vice-president of the **Johns-Manville Sales Corporation** and general sales manager of the company's transportation department. In his new position, Mr. Townsend will assist **John H. Trent**, vice-president and general manager, in directing sales of the transportation department throughout the United States and Canada. He began his career in the purchasing department of the New York Central and later served as purchasing agent of the Liberty Steel Products Company and railroad sales representative of the Murphy Varnish Company. He joined Johns-Man-



Raymond P. Townsend

ville in 1925 as sales manager of the eastern region and was appointed general sales manager of the transportation department in 1944.

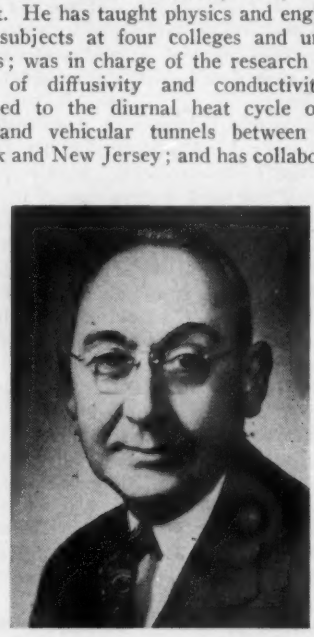
W. B. Peirce has been promoted to vice-president of research and development of the **Flannery Bolt Company,** Bridgeville, Pa. Mr. Peirce served his apprenticeship with the Baldwin Locomotive Works, subsequently serving as night superintendent. He then joined the Buffalo Bolt Company at North Tonawanda, N. Y., as general superintendent. Shortly after the



W. B. Peirce

last war he was appointed works manager of the Graham Bolt & Nut Co., at the time Jones & Laughlin made an investment there for the purpose of expanding the Graham Company's activities. He continued with the Pittsburgh Screw & Bolt Corp. after their absorption of the Graham Bolt & Nut Co., subsequently transferring to the Flannery Bolt Company as works manager.

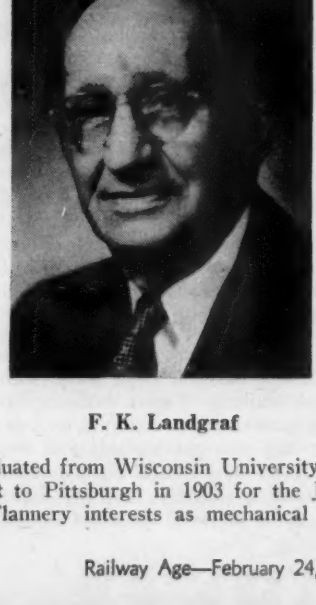
Dr. G. R. Greenslade has been promoted to the position of director of research of the Flannery Bolt Company. Dr. Greenslade was graduated from Whitman College, Washington University and Wisconsin University and received the degrees of bachelor of science, master of science, master of arts and doctor of philosophy. He was formerly fellow of the department of physics at Wisconsin University. During the first world war he served as director of the school of electronics and radio communication at the Madison, Wis., cantonment. He has taught physics and engineering subjects at four colleges and universities; was in charge of the research problem of diffusivity and conductivity as related to the diurnal heat cycle of the Holland vehicular tunnels between New York and New Jersey; and has collaborated



G. R. Greenslade

with the U. S. Bureau of Standards and the laboratories of the General Electric Company. He also served with the U. S. Bureau of Mines as chief of the physics section of the Pittsburgh, Pa., station, and later for two years as consulting physicist. Dr. Greenslade has been in the employ of the Flannery Bolt Company for some years, serving as chief physicist and as research engineer, and has received over fifty United States and foreign patents on his inventions.

F. K. Landgraf has been promoted to vice-president of engineering of the Flannery Bolt Company. Mr. Landgraf was



F. K. Landgraf

graduated from Wisconsin University. He went to Pittsburgh in 1903 for the James J. Flannery interests as mechanical engi-

neer for the American Vanadium Company. He became associated with Flannery Bolt Company at its formation in 1904, serving as draftsman and later was promoted to superintendent, general superintendent and chief engineer. He has designed and built for the company many of the machines used in the production of its war-time and commercial products and has contributed towards the many patents which the company owns covering these devices.

W. C. Masters has been promoted to sales manager of the Flannery Bolt Company. Mr. Masters, who was educated at the Carnegie Institute of Technology, has been active in the operation of several plants, later specializing in the technical and metallurgical aspects of the business. He was loaned by the Graham Bolt & Nut Co. for a period of years to the Bolt, Nut and Rivet Institute, serving as technical advisor. He was employed as sales engineer with the Townsend Company for a short time and, in 1936, joined the Flannery organization.



W. C. Masters

S. S. Kahn, assistant sales manager, has been appointed sales and advertising manager of the **Parker-Kalon Corporation,** New York, to succeed the late Charles S. Trott.

The Carbondale, Pa., plant of the **American Welding Company,** wholly-owned subsidiary of the American Car & Foundry Co., will be closed on April 30 and offered for sale.

The Gardiner, Mass., plant of the **Heywood-Wakefield Company** has been awarded the Army-Navy "E" for the fourth time for continued production excellence.

The **Greenfield Tap & Die Corp.,** Greenfield, Mass., has received its fifth Army-Navy "E" award in recognition of its sustained efforts in producing cutting tools and gages.

The **Ford Machinery Company** of Toledo, Ohio, has been appointed agent in the Toledo territory for the **R. K. LeBlond Machine Tool Company** of Cincinnati, Ohio. The **Calco Machinery Company,** Philadelphia, Pa., agent for LeBlond in the District of Columbia, Delaware, Maryland, southern New Jersey, and eastern Pennsylvania, has been appointed also to represent the **Carlton Machine Tool Company** in the same territory. **Nick Koppi,** formerly of the LeBlond sales and service department, has been appointed manager of the Calco Machinery Company.

Webb G. Krauser, vice-president and general manager of the **Canadian Cardwell Company, Ltd.,** Montreal, has been elected president and general manager of the company, and **C. Carmichael** has been appointed vice-president.

Gwilym A. Price of Pittsburgh, Pa., a vice-president, and **John R. Read** of Hamilton, Ont., chairman and president of the Canadian Westinghouse Company, have been elected directors of the **Westinghouse Electric & Manufacturing Co.**

The **Formica Insulation Company,** Cincinnati, Ohio, is constructing a three-floor addition to its plant to provide more production space and leasing an entire building of about 8,500 sq. ft. of floor space for storage purposes.

Robert Santini has been appointed district manager of the New York office of **Sciaky Brothers** of Chicago. Mr. Santini was until recently chief engineer delegated by Sciaky Brothers to the Specialty Equipment Company, former Sciaky representative in New York.

The **ACF-Brill Motors Company,** Philadelphia, Pa., has entered into an agreement with the Canadian Car & Foundry Co. of Montreal, by which the motor buses and trolley coaches of the design produced in the United States by ACF-Brill also will be manufactured in Canada by the Canadian Car & Foundry Co. and sold under the name of Canadian Car-Brill.

The **General Electric Company** has announced several organization changes within its New York district. **G. H. Reid** has been appointed assistant district manager. **W. E. Brown** has relinquished his position as manager, central station division, but will remain to handle special assignments. **H. M. Sliter** has been appointed district manager of the central station division, and **R. M. Darrin,** assistant district manager of that division. **Horace Zimmer** has been appointed district manager of the industrial division, which is in addition to his present position of district manager, transportation division; and **H. M. Bardin** has been appointed manager, sales of the federal and marine section, which has been transferred from the transportation to the industrial division. **R. B. Ransom** has been appointed manager of the New Haven, Conn., office, and **J. J. Pascher,** manager of the Hartford, Conn., office.

OBITUARY

Dr. Charles F. Burgess, founder of the Burgess Battery Company and the C. F. Burgess Laboratories died in Chicago on February 13 after a short illness. Mr. Burgess was born in Oshkosh, Wis., on January 5, 1873, and was graduated from the University of Wisconsin in 1895. From that year until 1900 he was an instructor of electrical engineering and from 1900 to 1913 he was professor of electro-chemistry and chemical engineering. In 1917 he formed the Burgess Battery Company and served as its president until 1929 when he became chairman of the board.

W. A. Kirkwood, vice-president of the Maryland Car Wheel Company, Baltimore, Md., died February 9. Mr. Kirkwood had been associated with the company for 36 years.

TRADE PUBLICATIONS

CAR SPECIALTIES. — Standard Railway Equipment Company, Chicago, 24-page bulletin illustrates and describes various types of steel freight-car roofs, ends, and doors, panel sides, metal floor protector, door fixtures, coupler carriers and release rigging, refrigerator car heater, hatch frame, ventilating bar, refrigerant containers for over-head bunder cars, a ball-bearing upper buffer spring for passenger cars, and other equipment supplied by the company.

Construction

CHESAPEAKE & OHIO.—Division 4 of the Interstate Commerce Commission has authorized this company to build a 5-mile extension from its Glen Jean subdivision to reach undeveloped coal mining territory in West Virginia. The extension will not pass through any community. Track will be constructed of 130-lb. rail. The project is expected to cost about $598,910, to be met from treasury funds.

ERIE.—This road has completed plans for eight construction and improvement projects all of which will be completed at a cost in excess of $20,000 each. They are as follows: Replacement of 80-ft. turntable by 105-ft. turntable at Salamanca, N. Y.; modernization of signals at Forest Hill, N. J., and a similar project at Great Notch, N. J.; installation of a power switch machine at Columbus, Pa.; respacing of signals between Marion, Ohio, and Griffith, Ind.; repair work on bridge at Niagara Falls, N. Y.; construction of semi-automatic interlocker, etc., at Wilders, Ind., and installation of coal and ash handling facilities at Marion.

LOUISVILLE & NASHVILLE.—This road has completed plans for the construction of a coal mine spur at Cornick, Ky., which will be built at a cost of $89,200. Other improvement work to be undertaken will include the installation of flashing-light signals at eight crossings in Owensboro, Ky.

JEEP PATROL.—U. S. Signal Corpsmen in Europe who patrol railway lines are reported to be doing the job by jeep. It is said these jobs can be made ready for standard-gage rail travel in about two hours and can be changed back for normal highway use in about 20 minutes.

Financial

Pennsylvania Reports for 1944

Though the Pennsylvania in 1944 handled the largest volume of business in its almost 100 years of history, with operating revenues for the first time exceeding a billion dollars ($1,010,015,912), net income for the year was $20,698,053 less than in 1943 and $36,748,362 under 1942, according to the company's 98th annual report, made public on February 21. Operating revenues from the record traffic moved increased $30,242,757 over the previous year, but operating expenses increased $72,808,034. Factors contributing to the higher expenses, according to M. W. Clement, president, were the full effect of the wage increases granted during 1943, higher prices for materials and fuel, and costs incident to handling a larger volume of business. Taxes amounted to $152,838,409, equivalent to more than 23 per cent on the capital stock, and consuming approximately 70 cents out of every dollar left after paying operating expenses and other charges.

Net income was $64,720,431. Out of this, $1,789,853 was appropriated to sinking and other funds, $1,454,705 was advanced to leased and affiliated companies, $18,767,970 was used in retirement of funded debt of the Pennsylvania, and dividends were paid amounting to 5 per cent, or $32,919,385, the same as in 1943 and 1942. The balance, $9,788,518, was transferred to profit and loss.

Continuing the policy which has been followed for some time in the past, debt of the system companies in hands of the public was reduced during 1944 by $31,283,927. In the past five years, total net reduction in system debt in hands of the public has been $138,000,000. Refunding operations have resulted in calling for redemption, during 1944 and so far this year, four issues of bonds totaling $140.735,000, while new issues, totaling $129,735,000, and bearing lower rate of interest, have been sold to provide funds for the redemptions. These transactions insure ultimate savings of approximately $61,000,000. In addition, refunding operations of three terminal companies, jointly owned with other railroads, will produce ultimate savings to the Pennsylvania of approximately $9,200,000. Rentals for leased roads, interest on the company's debt, and similar charges, decreased $1,107,161 from the previous year.

Discussing the excess profits tax, the report protests against a ruling of the Bureau of Internal Revenue requiring the railroads "to use a substitute for the invested capital base method, not provided for by law." In accordance with this ruling, the railroads are compelled to scale down their capital base by deducting depreciation that has never been charged. "Under this method," says the report, "the rate of return on invested capital permitted to be earned before the excess profits tax is imposed is not sufficient to provide for necessary charges and reasonable support for the investment in transportation property."

"The railroads are taxed not only by the federal government and the various states, but by many of the counties, cities and other municipalities they serve. These taxes, which the railroads have borne for many years at ever-increasing rates . . . have reached the point where practically all of the so-called large profits of the railroads during the war period have been and are now being drained off in taxes. The result is that the railroads have been unable to create the reserves that should be provided, in fact should be required, for rehabilitation after the war."

Action of the Interstate Commerce Commission in further suspending until January 1, 1946, the moderate increases in freight rates originally authorized in 1942, but suspended effective May 15, 1943, and subsequently suspended to January 1, 1945, is pictured as menacing the ability of the railroads to maintain adequate service when traffic recedes from the present abnormal volume. Mr. Clement points out that a decline in traffic is inevitable upon the termination of the war, in whole or part, but that the railroads must be in a position to provide improved equipment and other facilities if they are to retain a reasonable share of the post-war traffic.

Discussing the anti-trust suit brought by the Department of Justice against certain western railroads and the Association of American Railroads, Mr. Clement states: "This suit seeks, among other things, to destroy the Association, which is the central coordinating organization of the railroads of the country and the existence of which, in a large degree, has made possible the railroads' extraordinary war achievement. . . . In our judgment this would not only be disastrous to the railroad transportation system but also to the country and the public at large."

Attention is directed to the unsound character of proposed railroad social security legislation, which would greatly extend the benefits into fields wholly outside the present spheres of pensions and unemployment insurance, without providing a sound actuarial basis. Fear is expressed that the contemplated action would endanger the present pension system, established by the joint action of employees and management. The position is taken that, if any change is desired, "the employees and management should review together what is best to be done, first making sure that, above all else, the present pension plan is put on an actuarially sound basis."

CANADIAN PACIFIC.—*Common Dividend.*—Directors of the Canadian Pacific have declared a dividend of 3 per cent, or 75 cents a share on the ordinary capital stock, out of 1944 earnings, payable on March 31. This dividend will make a total payment of 5 per cent or $1.25 a share in respect to and out of 1944 earnings. A dividend of 2 per cent or 50 cents a share was paid on March 31, 1944, out of 1943 earnings. Prior thereto, no dividends had been paid since 1932.

DELAWARE & HUDSON.—*Albany & Susquehanna Merger.*—On February 14, stockholders of the Albany & Susquehanna were notified of the receipt of proposals from the Delaware & Hudson, lessee, embodying the basic terms of a merger under which the holder of each share of A. & S. capital stock would receive $150, principal amount, of 4½ per cent bonds, callable at the rate of $115 for each $100 principal amount of bonds, plus a share of D. & H. capital stock. The new bonds would be secured in general by a lien upon the railroad line of the Albany & Susquehanna, subordinate to the lien of the outstanding $10,000,000 of first mortgage 3½s of 1946 and any refunding thereof, and will also be the general obligation of the Delaware & Hudson Railroad, guaranteed by the Delaware & Hudson Co. The board of directors of the Albany & Susquehanna stated it believed the proposal an advantageous one and planned to recommend its approval when formally submitted following completion of details and approval by the necessary public authorities.

FLORIDA EAST COAST.—*Promissory Notes.* This road has applied to the Interstate Commerce Commission for authority to issue $1,969,488 of promissory notes as evidence of deferred payments in connection with its purchase from the Electro-Motive Division of General Motors Corporation of 15 2,000-hp. Diesel-electric locomotives, the total cost of which is $2,625,984.

LOUISVILLE & NASHVILLE.—*Capital Stock Split.*—This company has asked for Interstate Commerce Commission approval of its plan to exchange 2,340,000 shares of capital stock of $50 par value for the 1,170,000 shares of $100 par value now outstanding.

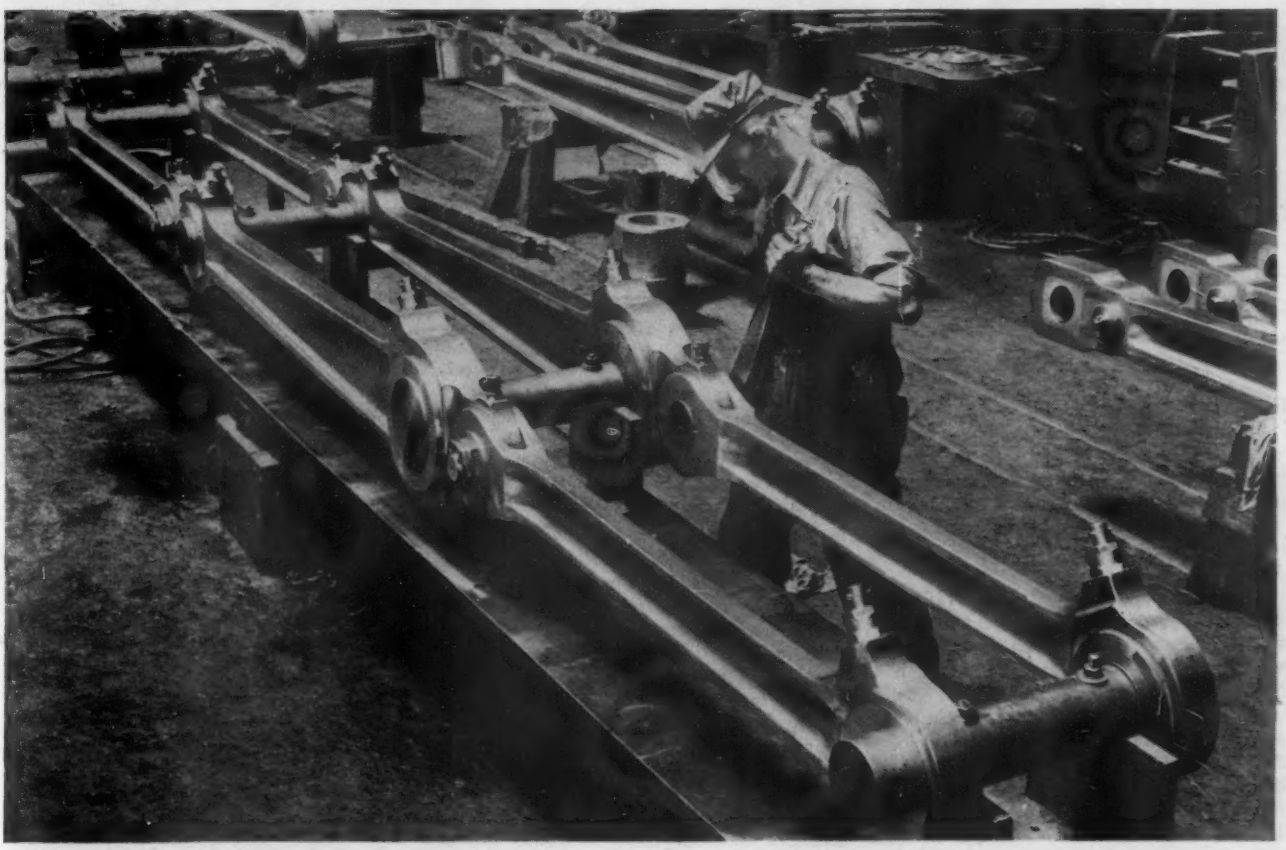
MAINE CENTRAL.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $258,413 of promissory notes in evidence, but not in payment, of the unpaid purchase price of the following equipment: One 660-hp. Diesel-electric switching locomotive to be supplied by the American Locomotive Company at a cost of $59,750; three 44-ton Diesel-electric switching locomotives by the General Electric Company at $38,325 each; and 12 steel dump cars by the Austin-Western Company at $6,974 each.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—*Reorganization Expenses.*—Maximum allowances for compensation and expenses in connection with this road's reorganization have been fixed by Division 4 of the Interstate Commerce Commission for the period from July 1, 1942, to the termination of the proceedings. Claims were approved to the extent of $159,166 out of $171,920 sought. The two largest claims, both allowed in full, were those of counsel for the reorganization committee, one of Sidley, Austin, Burgess & Harper for $69,427, and one of Oliver & Donnelly for $46,951. The latter firm also was allowed $15,000 on a claim for $16,500 as counsel for the so-called mutual savings bank group of creditors, while the first-named firm was also allowed in full its claim for $8,299 as counsel for a group of institutional investors. The claim of Edward Lamb and associates, counsel for Lowell Baldwin and others, in the amount of $10,254, was disallowed.

MISSOURI-KANSAS-TEXAS. — *Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for

News Department continued on next left-hand page

FREIGHT *must move!*



In the present emergency, Lima recognizes that to move the huge volume of essential freight it is necessary for the railroads to employ scores of old locomotives, which normally it would be uneconomical to operate.

So to aid the railroads to keep such motive power in service, Lima is extending every effort to supply required repair parts promptly.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

authority to issue $952,000 of equipment trust certificates in connection with its purchase of 225 40-ton automobile cars to cost $3,917 each and 75 50-ton automobile cars to cost $4,367 each, all to be built in the shops of its subsidiary, the M.-K.-T. of Texas.

NEW YORK, NEW HAVEN & HARTFORD.—*Plan Returned to I. C. C.*—On February 14, the United States district court at New Haven, Conn., returned the New Haven's proposed plan of reorganization to the Interstate Commerce Commission, for consideration of two points affecting the Old Colony, in accordance with a decision of the circuit court of appeals which reversed in part action previously taken by the lower court. The points on which the plan was returned to the commission involve valuation of Old Colony property and the question of termination of passenger service on Old Colony lines. (Previous item in *Railway Age* of January 13, page 175.)

PERE MARQUETTE.—*Awards Bonds.*—On February 19 the Pere Marquette awarded its $50,000,000 issue of 35-year first mortgage bonds to a syndicate of 51 underwriting firms headed by Blyth & Co., on a competitive bid of 99.71 for a coupon rate of 3⅜ per cent, an indicated average annual cost to the company of approximately 3.383 per cent.

R. J. Bowman, president of the railroad, said that the sale, which is subject to Interstate Commerce Commission approval and which will net the road $49,855,000, has cleared the way for refinancing of all of the company's outstanding first mortgage debt, aggregating in principal amount $52,467,335. The entire amount of this debt is evidenced by three outstanding series of first mortgage bonds—the series A 5s and series B 4s of 1956 and the series C 4½s of 1980. These three series, callable on 60 days' notice, are to be redeemed with funds realized from sale of the new bonds, supplemented by cash from the treasury of the company.

After the redemption of the outstanding bonds the new $50,000,000 of first mortgage bonds will be the only debt against the property except for equipment obligations which amounted to $7,472,000 on January 31. The refunding will effect a debt reduction of $2,467,000, bringing the total reduction in mortgage debt since October, 1942, to $14,535,000, or 22½ per cent. Reduction in annual interest charges, as compared with 1942, will approximate 42 per cent.

RUTLAND.—*Reorganization.*—The debtor's proposed plan for this company's reorganization has been submitted to the Interstate Commerce Commission. The claims of the old company's mortgage bondholders were listed as $11,864,155, of which $9,217,000 was represented by the face value of the securities. In addition, the old company had outstanding 89,625 shares of 7 per cent preferred stock and 1,178 shares of common stock. The stated capital of the new company, under this proposed plan, would be $12,084,684, but no fixed-interest debt would be included. Old bondholders would participate in the distribution of $4,026,226 of first mortgage 4 per cent income bonds, on which interest payments would be cumulative to the extent earned, and $7,615,929 of class A 3 per cent noncumulative stock without par value. Old preferred stockholders would participate in the distribution of $442,529 of new no-par common stock.

SOUTHERN PACIFIC. — *Central Pacific Bonds Exchanged.*—Under the offer of exchange made by the Central Pacific to holders of its first refunding mortgage 4 per cent gold bonds, due 1949, a total of $32,604,000 of such bonds have been exchanged, according to an announcement by A. T. Mercier, president of the Southern Pacific. The offer of exchange has expired by limitation.

WHEELING & LAKE ERIE.—*Trackage Rights.*—Division 4 of the Interstate Commerce Commission has found that this road's proposal to extend its operations to Follansbee, W. Va. (East Steubenville), by trackage rights over a line of the Wheeling Steel Corporation to that point from Steubenville, Ohio, 1.97 miles, including a bridge crossing the Ohio River, is "contrary to principles previously enunciated" by the commission, and therefore has denied the application. Denial had been recommended by Examiner Jerome K. Lyle in a proposed report (see *Railway Age* of September 23, 1944, page 497).

The application grew out of the steel company's expressed intention to consolidate its facilities for receiving iron ore on the West Virginia side of the river, reached by the Pennsylvania but not by the W. & L. E. As the Wheeling for many years has handled somewhat more than one-half the ore delivered to the steel company, through its facilities on the Ohio side of the river, it sought to retain its share of the business by entering into an arrangement to use the steel company's line to reach the facilities in West Virginia, under which it would pay the steel company 78.15 cents for each loaded or empty car so handled. The line would be used only for the movement of cars to and from the steel company's plant, and the operations would be performed with W. & L. E. power and crews.

"The steel corporation naturally is interested in securing the approval of the application because the rental received for the use of its properties will be entirely added income," the division pointed out, and also because "carrier competition will be retained and better service received." The Pennsylvania, which has lines reaching both the Ohio and West Virginia facilities of the steel company, opposed the project on the ground that it would permit the Wheeling to invade its territory in West Virginia, where it is in a position to handle in an efficient manner all the traffic that may be available. The effect of the trackage arrangement proposed would be to give the Wheeling a competitive advantage of 2.5 to 3 cents per ton, the Pennsylvania argued, and it suggested that the steel company might compensate the Wheeling for its loss of ore tonnage by giving it additional out-bound tonnage or more ore tonnage to other plants.

In summing up the argument, the division pointed out that the steel company is the only shipper that would benefit from the proposed arrangement; that the facilities the Wheeling proposes to use are within the steel company's plant; that the steel company's maintenance and other expenses for such facilities will not be increased by the Wheeling's use; and that the facilities are congested and their use by the Wheeling would be difficult and expensive, over and above the rental to be paid, while no additional revenue would be received. Its denial of the application was based essentially, however, on the finding that "the payment proposed would have the effect of granting unlawful concessions to the steel corporation and would be contrary to previous findings of this commission with respect to the making of terminal allowances or the performance of excess service in industrial plants." If the steel company's need for ore becomes "sufficiently acute," the report remarked, it can use its own facilities to move it from the Ohio receiving point to the West Virginia facilities. "We are mindful of the probable adverse effect denial of the application will have upon the applicant," the division went on to say, "but we do not reject entirely the possibility that the steel corporation may be able to divide its traffic on an equitable basis between the carriers serving the plant. However, the possible unfortunate results upon the applicant do not warrant our approval of a plan" contrary to established precedents.

Average Prices Stocks and Bonds

	Feb. 20	Last week	Last year
Average prices of 20 representative railway stocks	51.39	49.69	40.49
Average prices of 20 representative railway bonds	95.14	94.39	86.73

Dividends Declared

Alabama & Vicksburg.—$3.00, semi-annually, payable April 1 to holders of record March 8.

Boston & Albany.—$2.00, payable March 31, to holders of record February 28.

Canadian Pacific.—75¢, irregular, payable March 31 to holders of record March 1.

Chesapeake & Ohio.—75¢, payable April 2 to holders of record March 8.

Delaware & Bound Brook.—50¢, quarterly, payable March 10 to holders of record March 3.

Erie & Pittsburgh.—87½¢, quarterly, payable March 10 to holders of record February 28.

Fort Wayne & Jackson.—5½% preferred, $2.75, semi-annually, payable March 1 to holders of record February 20.

North Pennsylvania.—$1.00, quarterly, payable March 10 to holders of record March 3.

Philadelphia, Germantown & Norristown.—$1.50, quarterly, payable March 5 to holders of record February 20.

Pittsburgh, Youngstown & Ashtabula.—7% preferred, $1.75, quarterly, payable March 1 to holders of record February 20.

Southern Pacific.—75¢, payable March 19 to holders of record February 26.

Virginian.—62½¢, quarterly, payable March 22 to holders of record March 12.

Wabash.—common, $1.00; 4½% preferred, $4.50, both payable April 20 to holders of record March 31.

Wheeling & Lake Erie.—75¢, quarterly, payable March 31 to holders of record March 20.

THE LINK BETWEEN.—For the third straight year, the Baltimore & Ohio is publishing a series of newspaper advertisements in the smaller communities along its lines. The current campaign, scheduled for 245 daily and weekly newspapers, points to the railroad as the link between producer and consumer. Typical subjects are: "The Link Between the Coal Mines and Your Fuel Dealer," "The Link Between the Cattle Country and Your Corner Market," and "The Link Between a Distant Orchard

News Department continued on next left-hand page

THE FRANKLIN SYSTEM OF STEAM DISTRIBUTION

The Outstanding Development in Locomotive Design

The Franklin System of Steam Distribution has eliminated the restriction on power output imposed by conventional systems of steam distribution.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

and Your Neighborhood Grocery Store." To translate the abstraction into concrete terms, each advertisement is framed by a giant chain link.

Abandonments

ATCHISON, TOPEKA & SANTA FE.—Division 4 of the Interstate Commerce Commission has extended for a further period of 2 years its reservation of jurisdiction with respect to the protection of employees who may be affected by the New Mexican Central line abandonment authorized in the Finance Docket No. 13831 proceeding.

CHESAPEAKE & OHIO-VIRGINIAN.—Upon consideration of petitions filed by the Railway Labor Executives Association, Division 4 of the Interstate Commerce Commission has extended for a further period of 2 years its reservation of jurisdiction with respect to the protection of employees who may be adversely affected by the abandonment of Chesapeake & Ohio trackage, and of operation over it by the Virginian, in the Finance Docket proceedings Nos. 14043 and 14108.

CHICAGO, BURLINGTON & QUINCY.—In a proposed report, Examiner Paul C. Albus has recommended that the Interstate Commerce Commission authorize this company to abandon a portion of a branch from Helvey, Neb., to K. C. & O. Junction, 4.27 miles, and to abandon operation under trackage rights over the line of the St. Joseph & Grand Island, leased to the Union Pacific, from the junction to Endicott, 11.9 miles. The examiner found that losses sustained in operating the line from Helvey to Endicott in recent years are largely attributed to the rental paid the U. P. under the trackage agreement, but "the applicant's efforts to have these payments reduced were not successful." The proposal was opposed by the state railroad commission, and employees asked that the commission reserve jurisdiction on conditions for the protection of employees who may be adversely affected, which reservation the examiner would make for a 2-year period.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—Upon consideration of a petition filed by the Railway Labor Executives Association, Division 4 of the Interstate Commerce Commission has extended for a further period of 2 years its reservation of jurisdiction with respect to the protection of employees who may be adversely affected by the line abandonment authorized in the Finance Docket No. 14024 proceeding.

GREAT NORTHERN.—In a proposed report, Examiner Lucian Jordan has recommended that the Interstate Commerce Commission authorize this company to abandon a branch from Armington, Mont., to Neihart, 38.22 miles, in view of the "clear showing" that the expected revenues will be insufficient "by a considerable amount" to meet operating costs, without regard to the cost of needed repairs. The state railroad commission had opposed the application.

Railway Officers

EXECUTIVE

Edward Percy Flintroft, K. C., whose retirement as vice-president and general counsel of the Canadian Pacific at



Edward P. Flintroft

Montreal, Que., was announced in the *Railway Age* of February 17, was born at Sarnia, Ont., on October 17, 1879, and was graduated from the University of Toronto in 1900 and the law school of Osgoode Hall, Toronto, in 1903. After practicing law as a member of the firm of McBride & Flintroft at Waterloo, Ont., from 1903 to 1908, he joined the Canadian Pacific as assistant to the solicitor at Montreal, becoming assistant solicitor in 1912 and solicitor in 1914. In 1917, Mr. Flintroft was appointed assistant general solicitor and he was promoted to general solicitor in 1929. On May 1, 1936, he was advanced to general counsel, and in July, 1942, he was named vice-president and general counsel, the position he held at the time of his retirement.

George Abram Walker, K. C., whose appointment as vice-president and general counsel of the Canadian Pacific at Montreal, Que., was announced in the *Railway Age* of February 17, was born at Toronto, Ont., on October 8, 1879, and entered the service of the Canadian Pacific at the age of 12, as a solicitor's office boy at Toronto, where, after serving in various other posts, he became chief clerk in 1901. Mr. Walker was graduated from the law school of Osgoode Hall at Toronto in 1906 and was named a barrister in the law department at Toronto the same year. In 1911, he became solicitor at Calgary, Alta., remaining there until 1934, when he was appointed assistant general solicitor at Montreal. In 1936 he was advanced to general solicitor, the position he held at the time of his recent promotion to vice-president and general counsel.



George A. Walker

Harlan P. Ross, vice-president of the Upper Merion & Plymouth at Conshohocken, Pa., has been appointed president, with the same headquarters.

FINANCIAL, LEGAL AND ACCOUNTING

Dennis Joseph Mullane, whose promotion to secretary and treasurer of the Lehigh Valley at New York was announced in the *Railway Age* of February 3, was born at Jersey City, N. J., on February 5, 1898, and entered railroading in 1915 as a stenographer and clerk in the division engineer's office of the Lehigh Valley at Jersey City. He served subsequently as locomotive



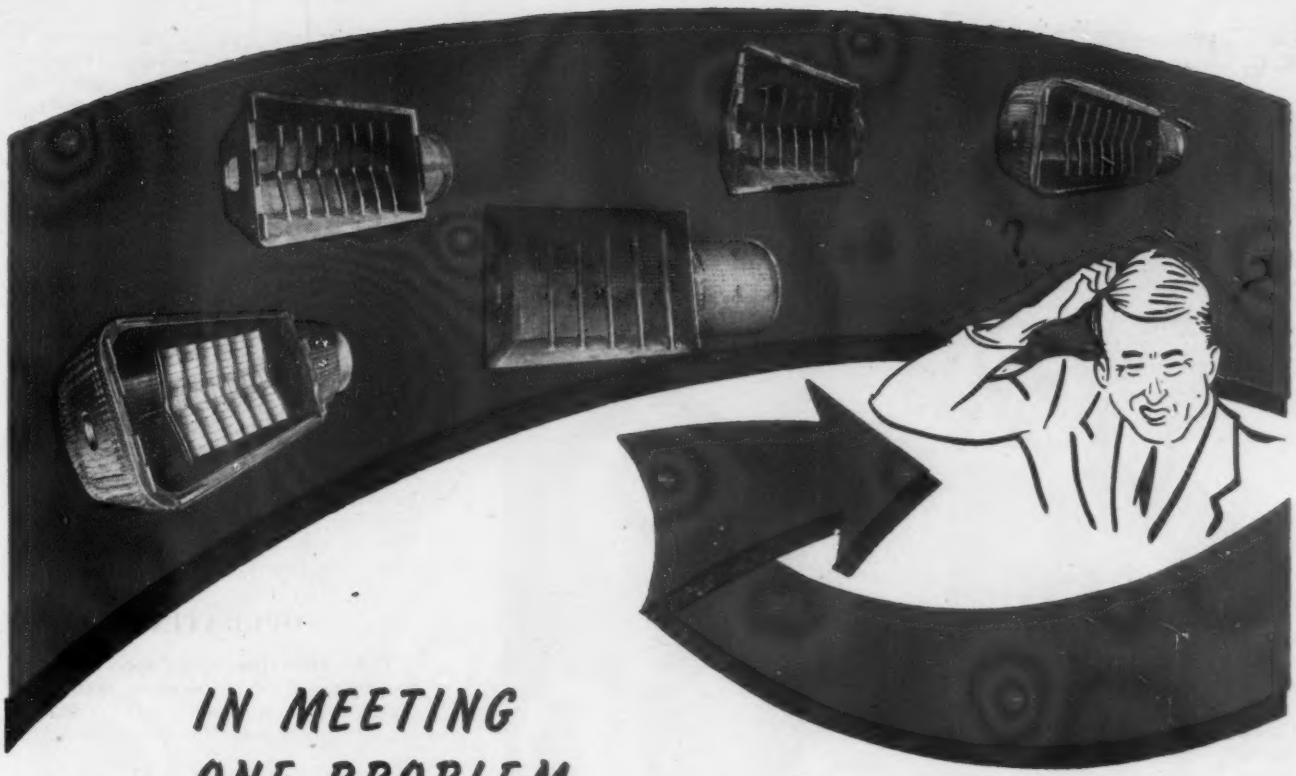
Dennis J. Mullane

detention clerk in the transportation department, secretary to the superintendent, record clerk and investigator, and assistant to trainmaster until 1917, when he joined the traffic department of the Texas Company. He returned to the Lehigh Valley in 1918, as statistician, later becoming transfer agent, assistant chief clerk, chief clerk to the president, and assistant secretary successively. He became assistant to the president in 1942, and remained in that post until his recent promotion to secretary and treasurer.

Robert J. Fletcher, commerce counsel of the Boston & Maine, has been named general attorney at Boston, Mass.

Reginald H. M. Temple, K. C., general counsel of the Canadian National, has been appointed head of the law department with headquarters as before at Montreal,

News Department continued on next left-hand page



IN MEETING ONE PROBLEM

SECURITY CIRCULATORS

HAVE SOLVED SEVERAL OTHERS

THE demand for greater boiler horsepower, in the modern steam locomotive, has led to the construction of larger fireboxes. This in turn presented a problem of brick arch support, to meet which Security Circulators were primarily developed.

Security Circulators may be installed in any locomotive and permit the use, in any type of firebox, of a 100% arch, for which they provide the ideal support.

In addition to this, Security Circulators give the positive protection of a continual flow of water over the center of the crown sheet. Security Circulators also improve circulation in side water-legs.

Furthermore, Security Circulators tend to reduce honeycombing, flue plugging and cinder cutting.

AMERICAN ARCH COMPANY, INC.

NEW YORK • CHICAGO

SECURITY CIRCULATOR DIVISION

Que., succeeding **E. E. Fairweather, K. C.**, who has retired because of ill health.

D. I. McNeill, K. C., whose appointment as assistant general counsel of the Canadian Pacific at Montreal, Que., was announced in the *Railway Age* of February



D. I. McNeill

17, entered the service of the Canadian Pacific's legal department as a student-at-law at Calgary, Alta., in 1924, and was appointed assistant solicitor at Montreal four years later. In 1936 he was named solicitor at Montreal, and he transferred to Winnipeg, Man., in 1939. He was promoted to assistant general solicitor there in 1942, and he remained in that post until his recent appointment as assistant general counsel at Montreal.

Clinton D. Hart, whose promotion to general freight claim agent of the Atchison, Topeka & Santa Fe, with headquarters at



Clinton D. Hart

Topeka, Kan., was reported in the *Railway Age* of February 17, was born at Minneapolis, Kan., on September 18, 1884, and entered railway service in January, 1902, as a waybill sorter of the Santa Fe. He served as a clerk of the freight claim department, loss and damage claim investigator, chief clerk of the freight claim auditor, and chief clerk of the general claim agent, all with headquarters at Topeka. In January, 1919, Mr. Hart was promoted to assistant general claim agent, the position he held at the time of his new appointment.

M. B. Johnson and **H. H. Johnson**, attorneys-at-law with headquarters at Cleveland, Ohio, have been appointed general counsel of the Wheeling & Lake Erie at Cleveland.

F. C. S. Evans, whose appointment as general solicitor of the Canadian Pacific with headquarters at Montreal, Que., was announced in the *Railway Age* of February 17, was born at Owen Sound, Ont., and was graduated from Osgoode Hall in 1923. He entered the service of the Canadian Pacific in 1935 as a transport service representative



F. C. S. Evans

on special work, with headquarters at Montreal and became a solicitor in the law department in 1938. In 1942 Mr. Evans was appointed assistant general solicitor at Montreal, and he remained in that post until his recent promotion to general solicitor with the same headquarters.

Isaac Barnum, whose promotion to freight claim agent, eastern and western lines, of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., was reported in the *Railway Age* of February 17, was born at Topeka on September 10, 1884, and received his higher education at Washburn University, Topeka. He entered railway service on September 8, 1904, as



Isaac Barnum

a claim checker of the Santa Fe at Topeka which has been his headquarters throughout his subsequent career. From 1909 to 1918 he served as loss and damage investigator, and in the latter year he was promoted to chief claim clerk. In January, 1919, Mr. Barnum was advanced to chief clerk to the general claim agent of the system, holding that position until his new appointment.

Henry C. Pribble, whose retirement as general claim agent of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., was reported in the *Railway Age* of February 10, was born at Topeka on January 20, 1875, and entered railway service on February 4, 1892, as an office boy of the Santa Fe at Topeka which has been his headquarters throughout his subsequent career. Later he served as rate clerk and chief of agents of the accounting department, accounting clerk, chief claim clerk, and assistant chief clerk and chief clerk of the freight auditor's office. In January, 1910, Mr. Pribble was promoted to freight claim auditor, and in November, 1914, he was advanced to the position he held at the time of his retirement.

OPERATING

T. G. Hawkins, whose appointment as superintendent of the sleeping, dining and parlor car department of the Canadian Pacific was announced in the *Railway Age*



T. G. Hawkins

of February 17, entered the service of the Canadian Pacific in 1902 as an office boy in the steamship department. He transferred to the dining car department in 1906 as a stenographer, and later served as chief clerk. In November, 1912, he was named inspector, and he remained in this post until February, 1926, at which time he was promoted to assistant superintendent, sleeping, dining, and parlor car department, the position he held at the time of his recent advancement to superintendent.

L. T. Andrews has been appointed acting trainmaster of the Atlantic Coast Line's Richmond district, with headquarters at Rocky Mount, N. C.

M. I. Dunn, trainmaster of the Chicago division of the Chesapeake & Ohio at Peru, Ind., has been promoted to superintendent of that division, with the same headquarters, a newly-created position.

L. S. Kinnebrew has been appointed superintendent, North Florida division, of the Seaboard Air Line, at Jacksonville,

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AMERICAN
EXHAUST

February

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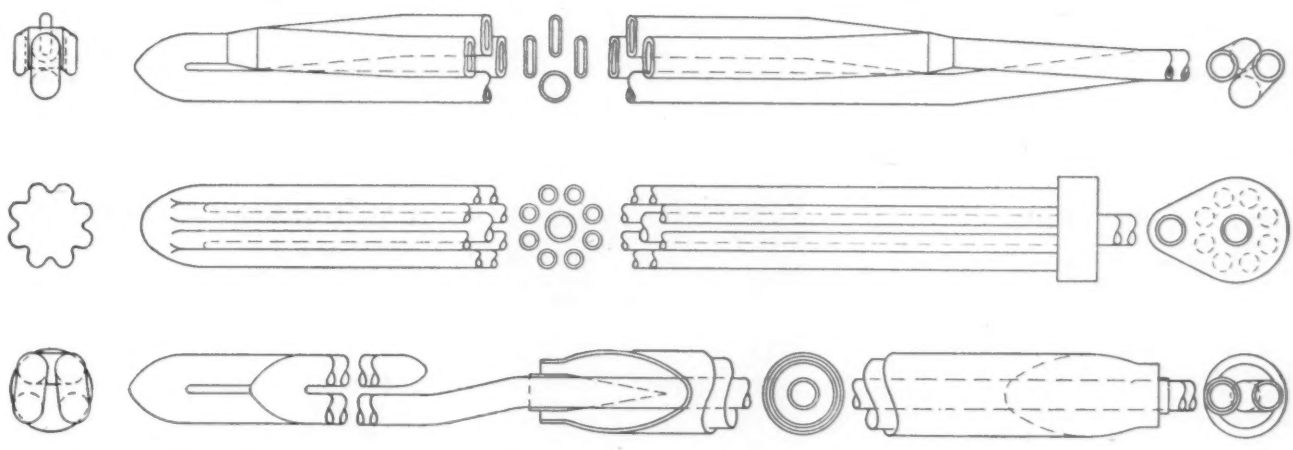
24, 1945

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During this period, Elesco superheaters of all types and designs, have been applied to locomotive, marine, stationary and oil-field boilers, both in this country and abroad.

Our engineering and research departments have devoted much time and expense to superheater development, and it has always been our policy to provide the best in superheaters within economical and practical limits. When better superheaters are designed and built, we will build them.



A-1700

ELESCO

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

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AMERICAN THROTTLE COMPANY, INC.
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THE SUPERHEATER COMPANY, LTD.

Fla., succeeding **G. L. Hurley,** whose death on February 9 is reported elsewhere in these columns.

G. Nelson Wagner, chief clerk of the superintendent of freight and passenger transportation, western region, of the Pennsylvania at Chicago, has been promoted to assistant superintendent of freight transportation, western region, with the same headquarters.

Ray Glancy, superintendent of the Lake Superior division of the Railway Express Agency at Duluth, Minn., has been promoted to manager of the Customs division, with headquarters at New York, a newly-created position. **R. J. Byas** has been appointed superintendent at Duluth, succeeding Mr. Glancy.

L. C. Kusch, a member of the staff of the sleeping and dining car department of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, has been promoted to assistant superintendent of sleeping and dining cars, with the same headquarters, succeeding Thomas M. Durkin, whose death on February 5 was reported in the *Railway Age* of February 10.

Frank B. Birthright, who has been on furlough from the Southern since September, 1944, serving as a lieutenant colonel in the United States Army, has returned to his former position of superintendent of the Southern's Charleston division, with headquarters at Charleston, S. C. **W. H. Oglesby,** who replaced Mr. Birthright at Charleston, has been appointed assistant superintendent of the Atlanta division at Atlanta, Ga.

William G. Dorsey, terminal trainmaster of the Delaware, Lackawanna & Western at Hoboken, N. J., has been appointed superintendent of transportation with headquarters at New York. **Charles O. Dexter,** trainmaster at Buffalo, N. Y., has been promoted to assistant superintendent at Hoboken, and **C. O. Richardson,** supervisor of terminal operations, has been named to succeed Mr. Dexter as trainmaster at Buffalo.

TRAFFIC

J. M. Kennedy has been named agricultural agent of the Atlantic Coast Line with headquarters at Jacksonville, Fla.

E. S. Bowman, Jr., commercial agent of the Louisville & Nashville at Atlanta, Ga., has been promoted to general agent, with headquarters at Louisville, Ky.

John J. Horrigan has been appointed general agent of the Duluth, South Shore & Atlantic and the Mineral Range, with headquarters at New York.

E. L. Beardsley has been appointed director of industrial development of the Denver & Rio Grande Western, with headquarters at Denver, Colo., succeeding to the duties of Durbin Van Law, whose recent death was reported in the *Railway Age* of January 27.

O. H. Grimm, office assistant to the vice-president (freight traffic) of the New York Central System at New York, has been appointed assistant general freight agent at New Haven, Conn. **C. E. Zeender** has been appointed general agent at New Haven.

Walter H. Browne, whose appointment as general foreign freight agent of the Delaware, Lackawanna & Western with



Walter H. Browne

headquarters at New York was announced in the *Railway Age* of January 13, entered railroading with the D. L. & W. in October, 1905, as a clerk at the New York lighterage station. On March 1, 1920, he was named a representative of the foreign freight department, and he became Canadian agent, with headquarters at Toronto, Ont., in 1927. Mr. Browne was appointed foreign freight agent at New York on February 1, 1936, and remained in that post until his recent promotion to general foreign freight agent.

Gerald E. Gustafson, whose appointment as western traffic manager of the Boston & Maine and the Maine Central, with headquarters at Chicago, was reported in the *Railway Age* of February 10, was born at Chicago on October 1, 1896, and entered the service of the Michigan Central on February 16, 1914, in the freight traffic



Gerald E. Gustafson

department at Chicago. He was advanced through various positions in that department until April 15, 1920, when he left the Michigan Central to become traveling freight agent of the New York, Ontario & Western, with headquarters at Chicago. On June 15, 1922, he became commercial agent at Detroit, Mich., and on February 19, 1923, returned to Chicago as general agent. On April 15, 1937, Mr. Gustafson was promoted to general western freight agent at Chicago, and in January, 1938, he was advanced to western traffic manager, with the same headquarters, the position he held at the time of his resignation from that road.

In the *Railway Age* of February 10 the announcement concerning the appointment of Venable L. Smith as district freight agent of the Southern at Richmond, Va., should be corrected to read **"Venable L. Stern** has been appointed district freight agent of the Southern at Richmond, Va."

C. M. Bonner, commercial agent of the Seaboard Air Line at Chattanooga, Tenn., has been appointed division freight agent at Jacksonville, Fla., suceeeding J. F. Rivers, whose promotion to assistant general freight agent at Charlotte, N. C., was announced in the *Railway Age* of February 17.

Edwin Page Gardiner, whose retirement from the position of assistant freight traffic manager of the Boston & Albany (an affiliate of the New York Central) at Boston, Mass., was announced in the *Railway Age* of February 3, was born at Chelsea, Mass., on January 31, 1875, and entered railroad service in July, 1895, in the office of the commercial agent of the Boston & Albany at Boston. On January 1, 1903, he became agent for Merchants Despatch Transportation Company at Providence, R. I., and on February 2, 1907, he was appointed commercial agent, New York Central Fast Freight Lines, at Boston. On September 1, 1913, Mr. Gardiner was appointed assistant general freight agent of Boston & Albany and on August 24, 1926, he was promoted to general freight agent. He became assistant to freight traffic manager at Boston in January, 1941, and was appointed assistant freight traffic manager the following July, the position he held at the time of his recent retirement.

ENGINEERING & SIGNALING

Douglass Ruff, communications engineer of the Southern at Washington, D. C., has been promoted to general supervisor, communications, with the same headquarters.

F. L. Lloyd, assistant division engineer of the Winnipeg Terminal division of the Canadian National, has been promoted to division engineer, with headquarters as before at Winnipeg, Man.

MECHANICAL

J. J. Daly, whose promotion to superintendent of motive power and machinery of the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of February 10, entered railway service with the U. P. in 1921 as a machinist apprentice at Laramie, Wyo. He later served in several minor positions at Cheyenne, Wyo., Green River, Ogden, Utah, and Council Bluffs, Iowa, until April, 1942,

when he was promoted to master mechanic, with headquarters at Council Bluffs. In 1943 he became assistant superintendent of shops at Omaha, and one year later he was appointed master mechanic of the Nebraska division, with the same headquarters, the position he held at the time of his new appointment.

Roy C. Beaver, engineer, motive power, of the Bessemer & Lake Erie at Greenville, Pa., has been appointed superintendent of



Roy C. Beaver

motive power, with the same headquarters, succeeding E. F. Richardson, whose death on February 3 was reported in the *Railway Age* of February 10. **Samuel B. Schenck,** assistant engineer, motive power, at Greenville, has been promoted to engineer, motive power, succeeding Mr. Beaver.

Mr. Beaver was born at Greenville on August 29, 1889, and graduated from Thiel College in 1913. He entered railroad service the same year as a mechanical draftsman of the Bessemer & Lake Erie, and in 1918 was appointed to the position of assistant mechanical engineer. In 1933, Mr. Beaver assumed special duties in the car department on the development of lightweight cars, and he was named assistant engineer, motive power, in 1939. In March, 1944, he was promoted to engineer, motive power, at Greenville, the position he held at the time of his recent advancement to superintendent, motive power.

George G. Ritchie, who has been on furlough from the Chesapeake & Ohio for the past two years serving as a major in the United States Army, has returned to that road and has been appointed general fuel service engineer with headquarters at Richmond, Va.

SPECIAL

I. H. Grabill has been appointed general supervisor, investigation and police department, of the Southern at Washington, D. C., and not I. H. Crabhill, as incorrectly stated in the *Railway Age* of February 10.

Edward A. West, general manager of the Denver & Rio Grande Western at Denver, Colo., has been elected president of the Rio Grande Motorway (a subsidiary of the Rio Grande), succeeding T. L. James, whose resignation to accept the presidency of the Burlington Transportation Company (a subsidiary of the Chicago, Burlington & Quincy) was reported in the *Railway Age* of February 10. **R. B. Eagleston,** supervisor of research and statistics of the Rio Grande, has been promoted to assistant to the president of Motorway.

F. Rardin, R. E. Dillingham, and **T. E. Lester** have been appointed superintendent of personnel; supervisor of personnel; and supervisor, wage schedules, respectively, of the New York Central System at Cincinnati, Ohio.

Theodore L. James, whose election to president of the Burlington Transportation Company (a subsidiary of the Chicago, Burlington & Quincy), with headquarters at Chicago, was reported in the *Railway Age* of February 10, was born at Wymore, Neb., on August 8, 1906, and received his higher education at the University of Nebraska. He entered transportation service in 1936 as western manager of the Burlington Transportation Company, with headquarters at Los Angeles, Cal., and in 1939 he went with Pueblo Motor Way, Inc., at Denver, Colo., later serving as superintendent of the Denver & Interurban



Theodore L. James

Motor Company and the Burlington Transportation Company, with the same headquarters. In 1941 Mr. James was elected president and general manager of the Rio Grande Motor Way, Inc. (a subsidiary of the Denver & Rio Grande Western), with headquarters at Denver, the position he held at the time of his election to head of the Burlington subsidiary.

OBITUARY

G. L. Hurley, superintendent of the North Florida division of the Seaboard Air Line with headquarters at Jacksonville, Fla., died there on February 9.

Charles Otway Miller, freight claim agent-chief special agent of the Chesapeake & Ohio, with headquarters at Richmond, Va., died there on February 17. Mr. Miller, who was born at West Point, Va., on April 29, 1894, entered railroading in December, 1907, as a messenger of the Richmond, Fredericksburg & Potomac, later acting as clerk until September, 1910. In January, 1911, he joined the Chesapeake & Ohio as a clerk in the accounting department, and, after serving as stenographer and bookkeeper successively in that department, he became clerk-stenographer in the office of the president in October, 1916, being promoted to secretary to the president two years later. In July, 1923, Mr. Miller was named chief clerk to the operating vice-president, remaining in that post until April, 1933, when he was advanced to freight claim agent at Richmond, Va., to which post the additional duties of chief special agent were added in 1944.

Otis A. Thompson, chief of the tariff bureau of the Western Trunk Line Committee, with headquarters at Chicago, died at his home in La Grange, Ill., on January 17.

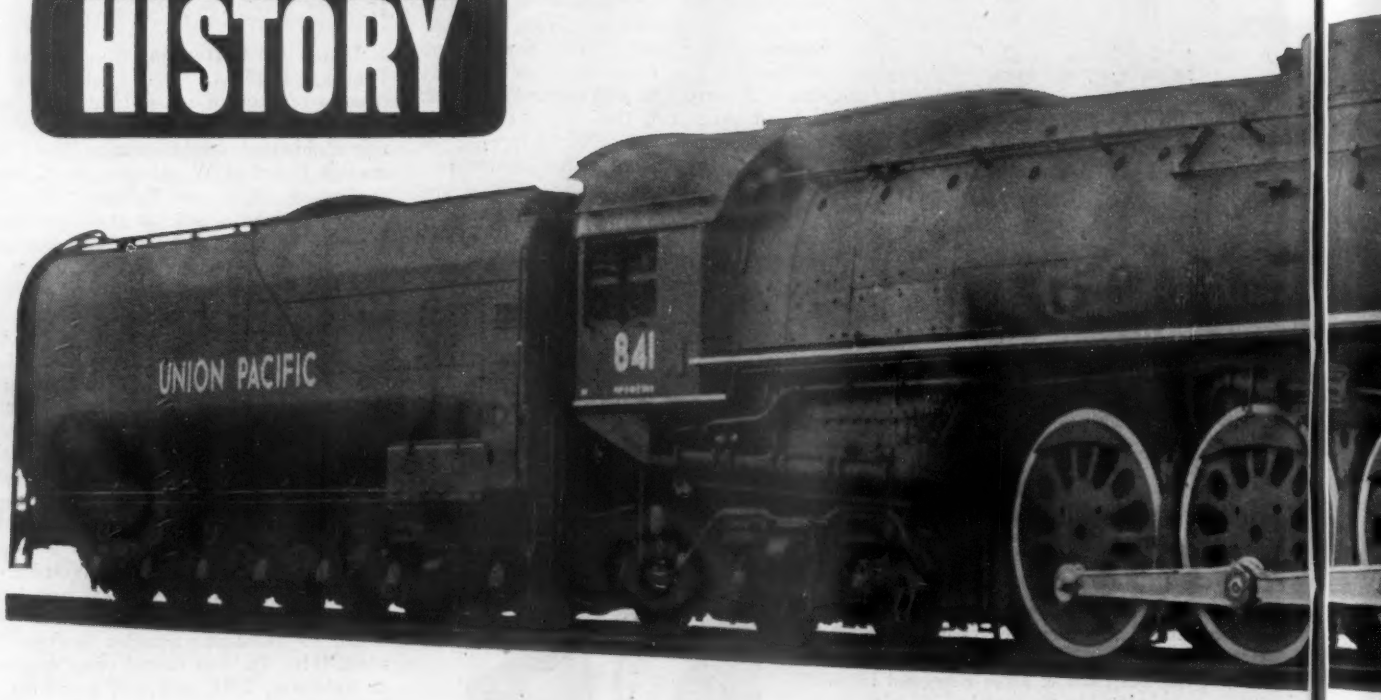
James C. Patterson, who retired on February 1, 1944, as chief engineer, maintenance of way, of the Erie at Cleveland, Ohio, and later served in the Transportation Equipment section of the War Production Board at Washington, D. C., died at Orange, N. J., on February 18. Mr. Patterson, who was born at Carmichaels, Pa., on January 21, 1882, and was graduated from Pennsylvania State College in 1905, entered railroading in June, 1905, as a rodman in the maintenance of way department of the Pennsylvania. In August, 1906, he went to the New York Central as a draftsman, and in April, 1907, he entered the service of the Cleveland, Cincinnati, Chicago & St. Louis, where he was engaged in location surveys. In October of that year he became a field engineer for John C. O'Bryan, consulting engineer, remaining in that post until April, 1909, when he re-entered railway service as an assistant engineer on the Chicago Great Western. In July, 1913, Mr. Patterson was appointed chief draftsman of the Erie, and was promoted to assistant valuation engineer in May, 1916. He was named office engineer in February, 1917, and was promoted to principal assistant engineer in June, 1918. Mr. Patterson was advanced to regional engineer of the New York region in March, 1920, and served in that capacity until February, 1927, when he became superintendent, maintenance of way. In 1928 he was elevated to chief engineer, maintenance of way, the position from which he retired one year ago.

TRAFFIC IN NEW SOUTH WALES.—The 6,127½ miles of railway in New South Wales carried 63,968,833 passengers in the quarter ended June 30, 1944, it has been reported by the Commissioner of Railways for that country. This, it is noted, is an increase of 2,432,024 over the comparable 1943 period. Freight carried totaled 4,541,941 tons, a decrease of 127,005 tons from the 1943 figure.

While it is stated that permanent way, bridges, buildings, fences, wharves and other properties were maintained in a safe condition during the quarter, it is observed that an acute shortage of man-power retarded maintenance work, particularly in regard to the renewal of rails and ties. Earnings totaled £8,306,930, a decrease of £205,733 from the comparable 1943 period, while expenditures amounted to £7,350,949. This latter figure reflected a decrease of £986,170 from the 1943 total.

 Table of Operating Revenues and Expenses appears on second left-hand page

LOCOMOTIVES THAT ARE MAKING HISTORY



TEN of the powerful, high-speed 4-8-4's have just been delivered by American Locomotive to the Union Pacific.

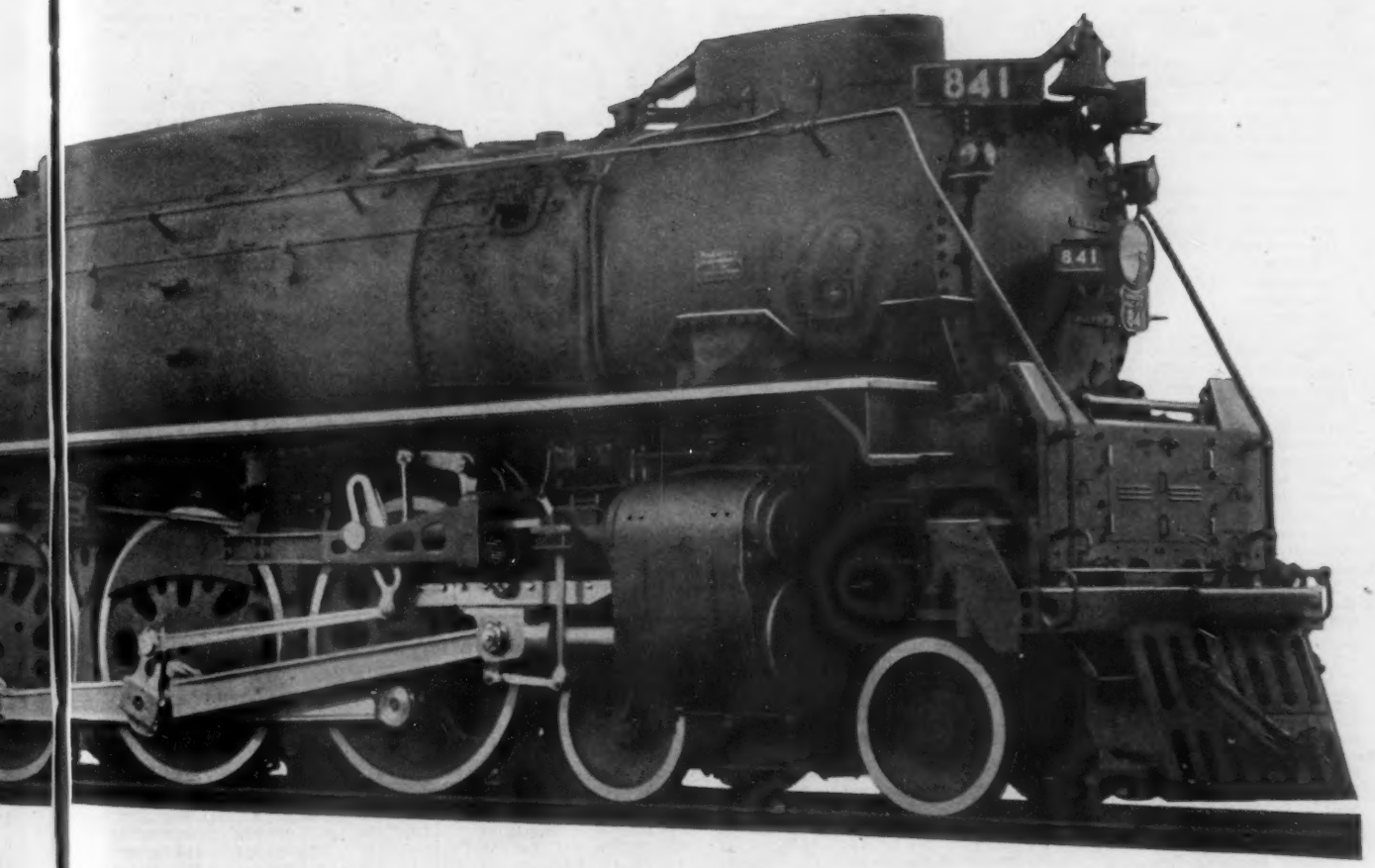
Forty-five of these locomotives are now operating on fast passenger schedules, pulling 16 to 22 car trains to their destinations, on time.

The first of these 4-8-4's was delivered in 1937. Since that time, these passenger locomotives have, through their successful operation, become part of Union Pacific's locomotive backbone.

Here are the "SPECS":

Weight on Drivers	270,300 lbs.
Weight of Engine	490,700 lbs.
Cylinders	25 x 32 ins.
Diameter of Drivers	80 ins.
Boiler Pressure	300 lbs.
Tractive Power	63,800 lbs.
Capacity (Water)	23,500 gals.
Capacity (Fuel)	25 tons

Locomotive designs developed by American Locomotive Company have been, are, and will continue to be powerful factors in American railroad operating efficiency and economy.



● ***Unsurpassed for the Job because Built for the Job***



American Locomotive

NEW YORK

Operating Revenues and Operating Expenses of Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF DECEMBER, 1944 AND 1943

Item	United States		Eastern District		Southern District		Western District	
	1944	1943	1944	1943	1944	1943	1944	1943
Miles of road operated at close of month	228,460	228,920	56,021	56,150	43,336	43,389	129,103	129,381
Revenues:								
Freight	$555,809,573	$571,335,540	$201,539,322	$214,742,847	$104,559,790	$108,916,917	$249,710,461	$247,675,776
Passenger	146,412,110	151,547,238	58,221,587	58,627,447	29,581,805	31,800,321	58,608,718	61,119,470
Mail	14,403,771	14,351,570	4,829,081	4,726,281	2,598,748	2,636,363	6,975,942	6,988,926
Express	10,593,671	11,048,991	2,210,283	3,108,906	1,679,568	1,665,674	6,703,820	6,274,411
All other operating revenues	29,638,537	33,420,173	12,428,037	12,335,400	5,297,263	6,450,989	11,913,237	14,633,784
Railway operating revenues	756,857,662	781,703,512	279,228,310	293,540,881	143,717,174	151,470,264	333,912,178	336,692,367
Expenses:								
Maintenance of way and structures	112,139,645	133,988,542	46,703,449	45,750,837	16,762,889	19,967,275	48,673,307	68,270,430
Depreciation	10,657,541	8,677,499	5,225,285	3,888,688	1,847,997	1,264,789	3,584,259	3,524,022
Retirements	9,224,725	2,101,189	4,329,787	532,180	1,823,224	217,493	3,071,714	1,351,516
Deferred maintenance	3,026,230	12,198,097	1,075,147	912,577	.....	*12,751	1,951,083	11,298,271
Amortization of defense projects	2,377,695	1,886,021	634,177	436,659	418,198	259,541	1,325,320	1,189,821
Equalization	*4,177,887	*9,249,683	1,105,238	*1,262,534	*3,991,486	*4,064,264	*1,291,639	*3,922,885
All other	91,031,341	118,375,419	34,333,815	41,243,267	16,664,956	22,302,467	40,032,570	54,829,685
Maintenance of equipment	135,640,559	154,049,432	52,293,836	58,586,536	26,366,600	28,746,529	56,980,123	66,716,367
Depreciation	18,026,431	17,402,666	7,597,223	6,942,825	3,597,735	3,162,643	6,831,473	6,847,198
Retirements	*767	.....	*2,719	.....	2,691	.....	*739	.....
Deferred maintenance and major repairs	1,751,784	6,774,478	19,813	5,332	.....	*5,191	1,731,971	6,774,337
Amortization of defense projects	16,516,376	15,009,803	5,284,487	6,021,474	3,834,009	2,943,574	7,397,880	6,044,755
Equalization	35,868	*1,251,198	12,060	*834,371	2,483	*183,462	21,265	*233,365
All other	99,310,927	116,113,683	39,382,972	46,451,276	18,929,682	22,378,965	40,998,273	47,283,442
Traffic	12,990,476	13,429,059	5,331,666	4,621,404	2,237,551	2,727,408	5,421,259	6,080,247
Transportation—Rail line	267,098,289	265,013,246	117,038,667	111,783,704	45,478,614	44,717,730	104,581,008	108,511,812
Transportation—Water line	*2,700	644	.....	.....	.....	.....	*2,700	644
Miscellaneous operations	10,482,447	10,873,752	3,962,353	3,595,565	1,584,163	1,610,773	4,935,931	5,667,415
General	17,426,649	21,769,419	7,326,214	8,784,729	3,476,642	4,669,608	6,623,793	8,315,082
Railway operating expenses	555,775,365	599,124,095	232,656,185	233,122,775	95,906,459	102,439,323	227,212,721	263,561,997
Net revenue from railway operations	201,082,297	182,579,417	46,572,125	60,418,106	47,810,715	49,030,941	106,699,457	73,130,370
Railway tax accruals	114,837,842	99,425,717	29,134,048	29,542,724	28,921,003	28,708,202	56,782,791	41,174,791
Pay-roll taxes	19,122,012	22,726,659	7,876,988	9,217,540	3,297,917	4,260,979	7,947,107	9,248,140
Federal income taxes†	65,279,058	53,525,677	4,031,773	10,069,061	21,006,229	19,411,178	40,241,056	24,045,438
All other taxes	30,436,772	23,173,381	17,225,287	10,256,123	4,616,857	5,036,045	8,594,628	7,881,213
Railway operating income	86,244,455	83,153,700	17,438,077	30,875,382	18,889,712	20,322,739	49,916,666	31,955,579
Equipment rents—Dr. balance	11,232,491	10,848,643	4,137,089	4,873,592	352,465	651,726	6,742,937	5,323,325
Joint facility rent—Dr. balance	5,428,317	2,756,230	2,396,120	1,410,279	397,496	423,846	2,634,701	922,105
Net railway operating income	69,583,647	69,548,827	10,904,868	24,591,511	18,139,751	19,247,167	40,539,028	25,710,149
Ratio of expenses to revenues (per cent)	73.4	76.6	83.3	79.4	66.7	67.6	68.0	78.3

FOR TWELVE MONTHS ENDED WITH DECEMBER, 1944 AND 1943

Item	United States		Eastern District		Southern District		Western District	
	1944	1943	1944	1943	1944	1943	1944	1943
Miles of road operated at close of month	228,624	229,096	56,082	56,280	43,371	43,430	129,171	129,386
Revenues:								
Freight	$6,998,614,851	$6,781,836,723	$2,666,021,795	$2,639,352,174	$1,325,844,647	$1,289,057,508	$3,006,748,409	$2,853,427,041
Passenger	1,790,305,286	1,652,853,901	723,800,493	664,953,157	352,289,463	336,785,283	714,215,330	651,115,461
Mail	130,245,806	125,038,036	43,700,512	43,007,750	23,588,067	22,762,980	62,957,227	59,267,306
Express	143,852,586	127,816,692	45,202,610	44,155,636	21,360,054	18,102,354	77,289,922	65,558,702
All other operating revenues	373,771,283	366,505,438	160,740,142	157,286,718	53,541,188	50,433,703	159,489,953	158,785,017
Railway operating revenues‡	9,436,789,812	9,054,050,790	3,639,465,552	3,548,755,435	1,776,623,419	1,717,141,828	4,020,700,841	3,788,153,527
Expenses:								
Maintenance of way and structures	1,263,201,874	1,108,145,641	483,461,798	421,654,986	215,206,994	185,641,384	564,533,082	500,849,271
Depreciation	108,349,771	105,303,280	47,736,660	45,395,891	17,839,642	17,499,837	42,773,469	42,407,552
Retirements	26,290,303	7,173,180	9,480,442	1,705,310	3,962,100	970,994	12,847,761	4,496,876
Deferred maintenance	*1,086,200	13,888,806	643,289	1,303,390	.....	*91,276	*1,729,489	12,676,692
Amortization of defense projects	19,944,788	11,321,828	6,309,583	3,678,356	3,576,169	1,994,510	10,059,036	5,648,962
Equalization	.....	.....	.....	.....	.....	.....	.....	.....
All other	1,109,703,212	970,458,547	419,291,824	369,572,039	189,829,083	165,267,319	500,582,305	435,619,189
Maintenance of equipment	1,587,483,404	1,440,297,476	659,551,638	606,788,082	299,813,474	267,908,254	628,118,292	565,601,140
Depreciation	214,762,785	210,590,931	90,756,910	88,861,336	42,970,750	43,025,348	81,035,125	78,704,247
Retirements	*17,661	.....	*7,377	.....	*2,150	.....	*8,134	.....
Deferred maintenance and major repairs	539,724	8,424,801	35,250	32,000	.....	*67,722	504,474	8,460,523
Amortization of defense projects	171,098,530	134,259,837	56,344,987	47,828,772	43,254,682	30,967,399	71,498,861	55,463,666
Equalization	.....	.....	.....	.....	.....	.....	.....	.....
All other	1,201,100,026	1,087,021,907	512,421,868	470,065,974	213,590,192	193,983,229	475,087,966	422,972,704
Traffic	136,744,340	129,299,599	49,839,537	46,744,046	24,796,822	24,813,702	62,107,981	57,741,851
Transportation—Rail line	2,973,904,978	2,685,938,587	1,315,709,007	1,197,568,277	503,124,099	451,404,850	1,155,071,872	1,036,965,460
Transportation—Water line	2,794	8,928	.....	.....	.....	.....	2,794	8,928
Miscellaneous operations	119,294,558	106,768,512	42,754,750	37,939,335	19,230,236	16,865,033	57,309,572	51,964,144
General	201,337,398	186,648,337	81,594,241	75,499,666	38,914,494	36,957,448	80,828,663	74,191,223
Railway operating expenses	6,281,969,346	5,657,107,080	2,632,910,971	2,386,194,392	1,101,086,119	983,590,671	2,547,972,256	2,287,322,017
Net revenue from railway operations	3,154,820,466	3,396,943,710	1,006,554,581	1,162,561,043	675,537,300	733,551,157	1,472,728,585	1,500,831,510
Railway tax accruals	1,846,153,127	1,849,020,258	534,576,569	596,682,161	431,049,243	447,062,792	880,527,315	805,275,305
Pay-roll taxes	230,988,365	211,562,104	97,069,642	90,535,250	40,069,718	36,342,090	93,849,005	84,684,764
Federal income taxes†	1,303,957,319	1,335,250,635	297,642,380	374,340,851	330,943,736	350,170,257	675,371,203	610,739,527
All other taxes	311,207,443	302,207,519	139,864,547	131,806,060	60,035,789	60,550,445	111,307,107	109,851,014
Railway operating income	1,308,667,339	1,547,923,452	471,978,012	565,878,882	244,488,057	286,488,365	592,201,270	695,556,205
Equipment rents—Dr. balance	152,013,713	148,290,930	64,145,890	61,724,326	5,714,034	8,508,541	82,153,789	78,058,063
Joint facility rent—Dr. balance	50,343,132	40,037,347	22,946,538	20,055,267	5,091,375	4,967,748	22,305,219	15,014,332
Net railway operating income	1,106,310,494	1,359,595,175	384,885,584	484,099,289	233,682,648	273,012,076	487,742,262	602,483,810
Ratio of expenses to revenues (per cent)	66.6	62.5	72.3	67.2	62.0	57.3	63.4	60.4

* Decrease, deficit, or other reverse items.

† Includes income tax, surtax, and excess-profits tax.

‡ Railway operating revenues are after deduction of $46,683,251 for the twelve months ended with December 1944, and $34,356,373 for the twelve months ended with December 1943 to create a reserve for land-grant deductions in dispute.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.



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STOP STEAM LOSS

WHEN steam is lost through leaks and blows, the fuel burned to make it is wasted. All mechanical supervisors are ever-concerned with reducing such losses and it is significant that most of them rely upon HUNT-SPILLER *Air Furnace* GUN IRON for bushings, packing and bull rings, and pistons. HSGI parts keep valves and pistons tight for longer periods; cut maintenance costs. And every other HSGI locomotive fulfills its component purpose . . . saving money.

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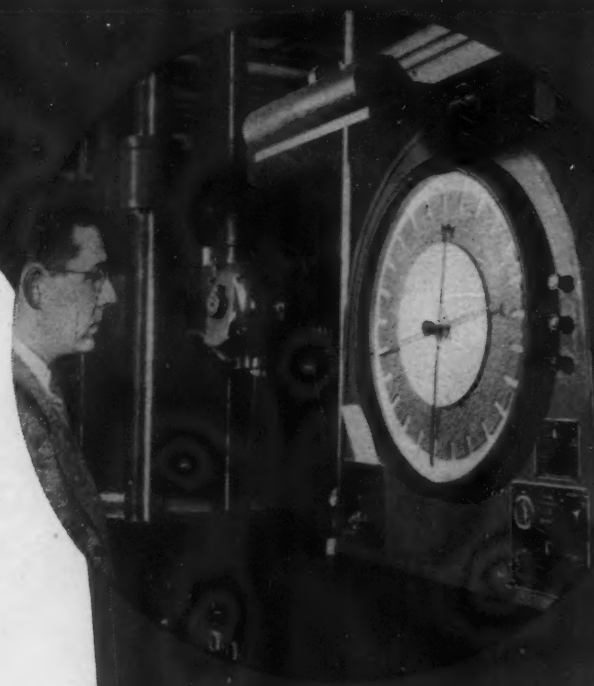
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Baldwin is—and has been for more than a century—a locomotive specialist. Today's Baldwin locomotives represent the most advanced designs in steam, diesel-electric, electric and steam turbine practice.

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Before you buy new road or shop equipment, it will pay you to ask if Baldwin makes it.







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The Baldwin Locomotive Works, Philadelphia, Pennsylvania: Locomotive & Ordnance Division; Baldwin Southwark Division; Cramp Brass & Iron Foundries Division; Standard Steel Works Division; The Whitcomb Locomotive Co.; The Pelton Water Wheel Co.; The Midvale Co.

THE NATION WHICH THE RAILROADS HELPED TO BUILD



To Speed and Comfort The Postwar Traveler

HERE is one of the new coaches that will win friends for the railroads -- streamlined for speed and trimness, specially designed for comfort and easy riding, and Yoloy built for lighter weight, stronger, tougher construction.

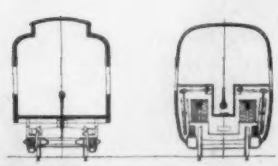
The body center of gravity is lower and the point of body support higher than in the old style cars, thus permitting these newly designed coaches to ride bumps and curves without road shock or end thrust. One of these revolutionary, newly designed cars is in service on each of three western railroads.

Yoloy is a nickel-copper steel which possesses, in addition to greater tensile strength and yield point, a high degree of corrosion resistance. Because Yoloy retains its impact resistance at low temperatures, it can be used safely in all climates.

No critical materials are used in the production of Yoloy as the necessary component alloys are secured from specially selected scrap. Yoloy is available now and your inquiry will receive immediate attention.



This sectional view of the internal body construction of this new car details the original and unique design which combines the maximum of sturdy strength with light weight.



Left—Old-style car, with high gravity center and low rotation center, sways and bumps on rough roadbeds.

Right—The new coach, with low center of gravity and high center of rotation, is "jouncelest".

YOUNGSTOWN

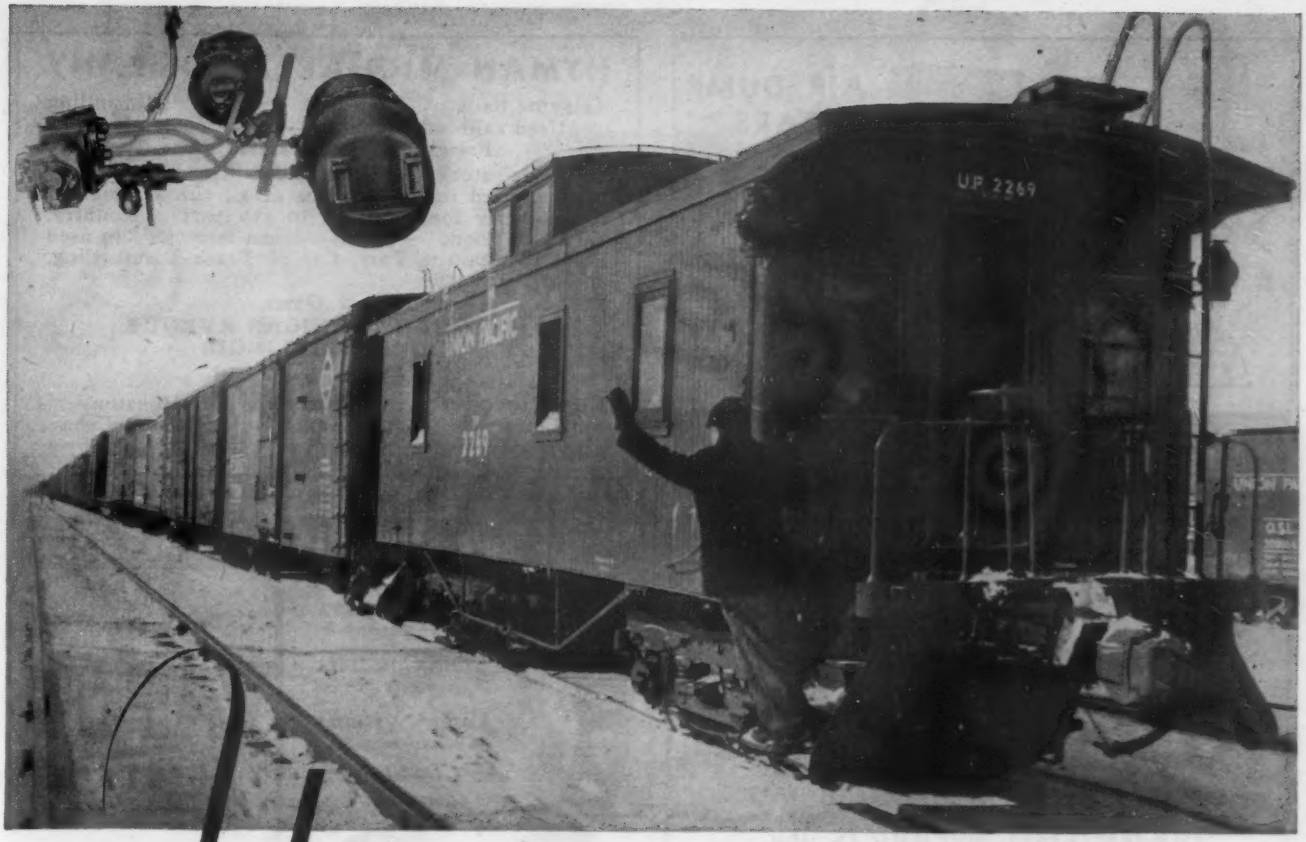
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TO HIGHER AVAILABILITY

"AB" Brakes Help to Keep 'Em Rolling—

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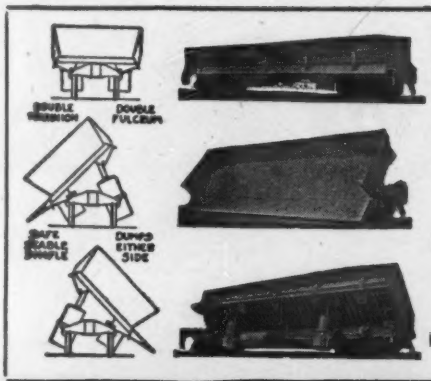
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For example, the daily car mileage in 1944 reached an all-time record of close to 50 miles per car per day.

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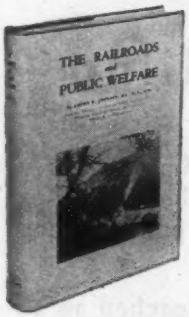
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WITH VAPOR ENGINEERED PRODUCTS

BE SURE IT'S GENUINE VAPOR ENGINEERED — VAPOR SYSTEM — GUARANTEED EFFICIENCY

VAPOR CAR HEATING CO. INC.
RAILWAY EXCHANGE, CHICAGO, ILL.

THE RAILROADS AND PUBLIC WELFARE



By EMORY R. JOHNSON

Professor Emeritus of Transportation and Commerce,
Wharton School of Finance and Commerce
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The dean of professors of transportation herein presents his mature thought on one of the outstanding problems of the day. After tracing the course of railroad development he analyzes their wartime problems and then discusses measures deemed necessary to promote sound railroad progress in post-war era.

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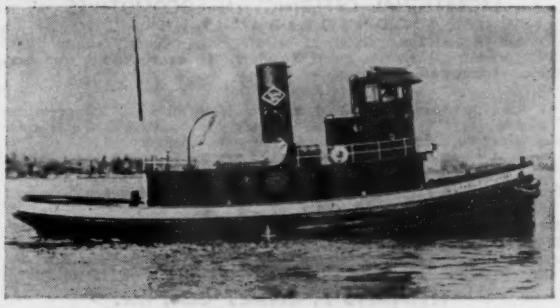
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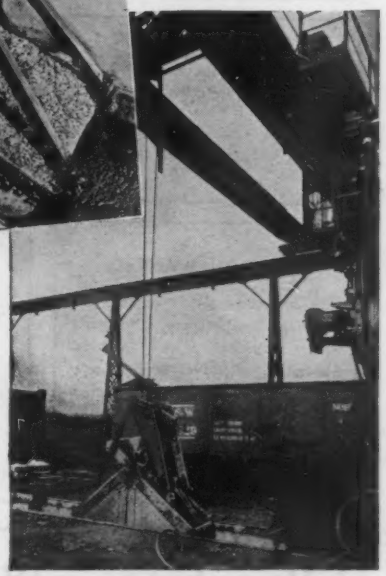
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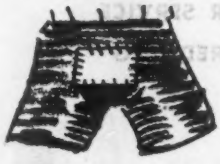
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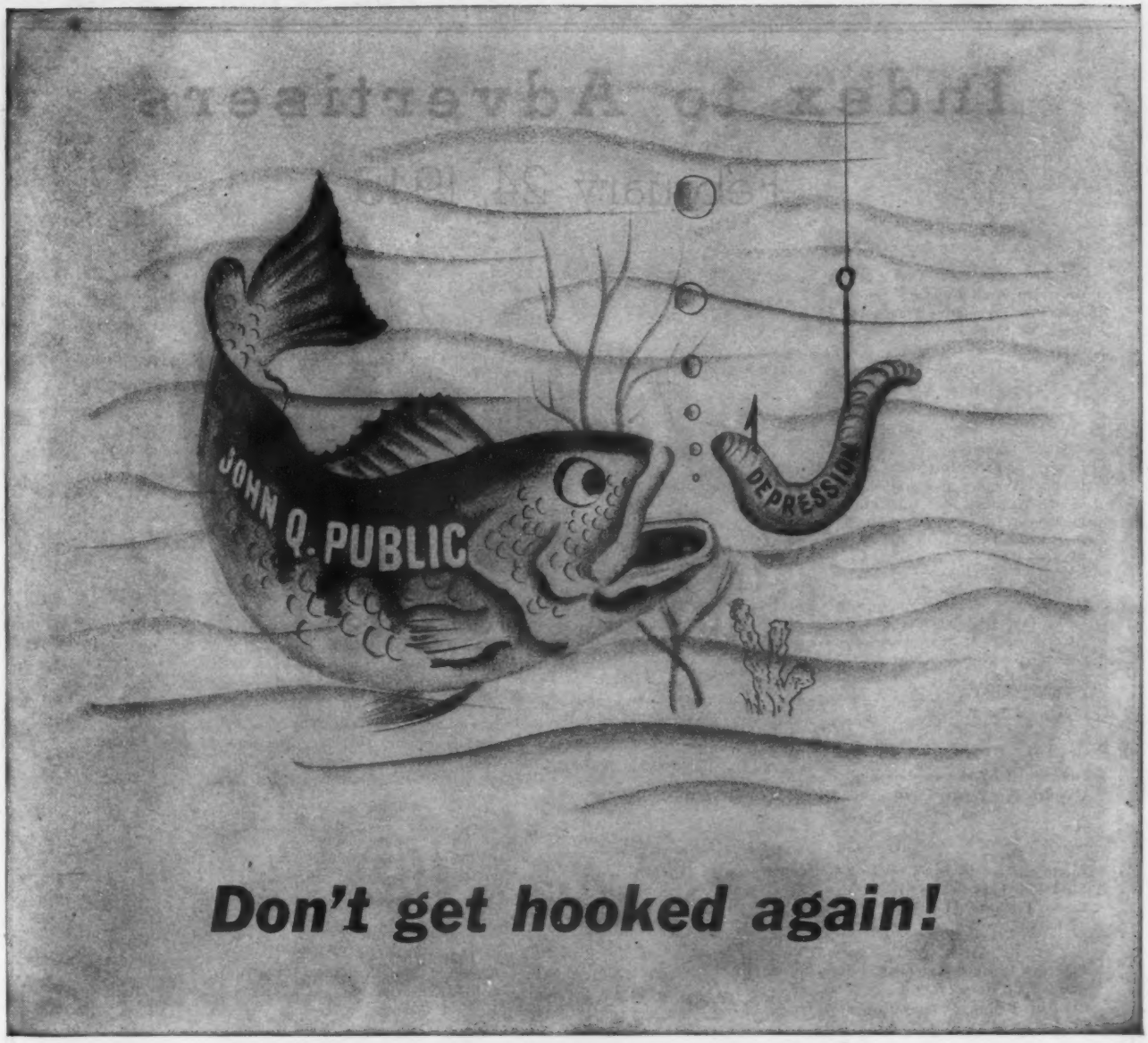
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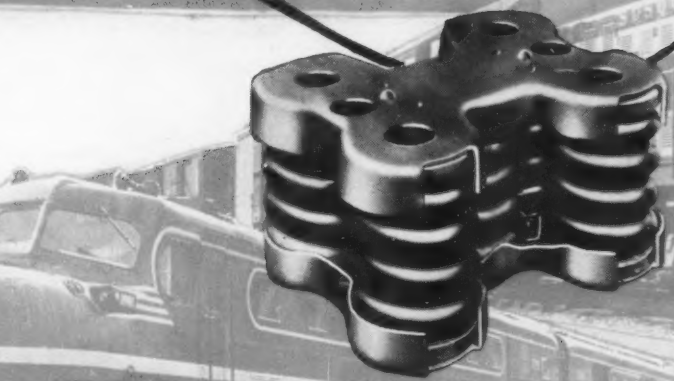
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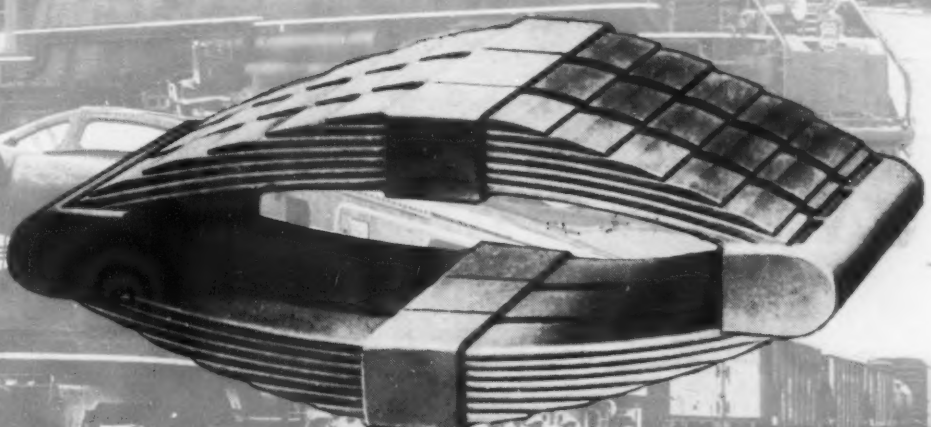
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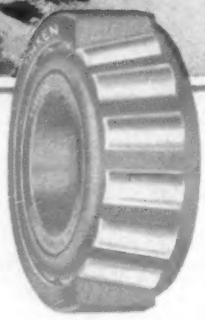
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